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Report of Proceedings

of the

TWENTY-FIRST CONFERENCE

held at

FYVIE HALL, THE POLYTECHNIC
LONDON, W.1

SEPTEMBER 14 AND 15
1946

UNIVERSITY
COLLEGE
LONDON

Published by
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Introduction

THE Twenty-first Conference of Aslib was held at the Fyvie Hall, the Polytechnic, Regent Street, London, during the week-end 14–15 September 1946. It was preceded on the Friday evening, 13 September, by tea and a conversazione at the Polytechnic, after which the twenty-first Annual General Meeting was held. This is reported on pages 118–20.

Though there was some natural disappointment that it had been again impossible to arrange a residential conference, the Aslib members were sincerely grateful to those by whose courtesy the premises of the Polytechnic were made available, and for the good offices of Mr. E. R. McColvin in particular. Facilities for obtaining lunch and tea on the premises were much appreciated and so was the use of the lounge, in which it had been possible to arrange a display of Aslib publications. An unexpected amenity enjoyed by many was the grand-stand view from the roof of the Fly-past, commemorative of the Battle of Britain, on the Saturday morning. Grateful thanks are also due to the Central Office of Information by whose courtesy the Sunday afternoon session was enlivened by the showing of two films.

The papers that follow constitute a record of the proceedings of the Conference. Written papers prepared in advance by the speakers have been reprinted in full. Delegates and visitors taking part in the discussions were asked to send in notes of their contributions and, with very few exceptions, these have been incorporated in full.

Reports are included (pages 125, 129, and 130) regarding the work of the British Union Catalogue of Periodicals, the National Central Library, and the Inter-Allied Book Centre. For these we are indebted to the courtesy of Mr. Theodore Besterman, Mr. R. H. Hill, and Mr. B. M. Headicar respectively. The consolidated accounts of the Aslib Microfilm Service from 10 April 1942 to 31 December 1946 are printed on pages 123–4.

A brief index to the contents of the Report is printed at the end. Copies of the Reports of eighteen previous conferences are still available but the Reports of the second and tenth conferences are out of print. A cumulative index to the Proceedings, Volumes I–XX, has been compiled and will be published shortly.

These Reports are indexed in the *Industrial Arts Index* of the H. W. Wilson Company of New York.

52 BLOOMSBURY STREET,
LONDON, W.C. 1.
27 *January* 1947

E. M. R. DITMAS
Director

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The Year's Work of Aslib, 1945/6

(A report presented at the Annual General Meeting held at the Polytechnic, London, 13 September 1946)

THE annual review of Aslib's work given at the 1945 Conference recorded that Aslib, born in 1924, had come of age. The year now under consideration marks yet another stage towards full maturity. It has been a period of rapid growth, in membership, in responsibility, and in the scope of Aslib's activities. It has also been a year of internal reorganization and of consolidation, a period during which adjustments have been made to meet the change from war-time conditions and demands to those of dawning peace. Contact with our friends in Europe has been re-established and the improvement in communications has made possible the resumption of overseas relations virtually suspended during the war. In fact, within the space of two years Aslib has changed from a small and financially struggling association to a substantial organization with a turnover of more than £6,000 per annum. It is this extraordinarily rapid growth that has been the justification for the Council's thorough review, through the Policy Committee, of the Aslib internal organization, and in particular for the decision that the organization is large enough and important enough to need the appointment of a Director.

The President

Though Aslib says good-bye to Sir Frederic Kenyon, President since 1944, with regret and with gratitude for his humane and inspiring leadership, we welcome, at a time which promises to be one of great importance in Aslib's development, Sir Reginald Stradling, C.B., M.C., D.Sc., F.R.S., M.I.C.E., who has kindly consented to accept nomination as President for the year 1946–7. As Chief Scientific Adviser to the Ministry of Works, he has worked in close conjunction with the D.S.I.R., the Medical Research Council, and other research organizations. He has both a great belief in the value of special libraries and also, through his association with the Building Research Station, the Roads Research Laboratory, and the Research and Experiments Department of the Ministry of Home Supply, he has first-hand knowledge of the problems connected with their organization.

The Council and Committees

Eleven meetings of the Council were held during the year and a number of important matters were considered. In particular the Council had to give attention to the winding-up of the Aslib Microfilm Service, the relationship of Aslib to UNESCO and to the Fédération Internationale de Documentation, the suggested amendments to the Aslib Memorandum and Articles of Association, and the internal reorganization of the administration of Aslib. Detailed examination of the last questions was delegated to a specially appointed

Policy Committee. Mr. C. Le Maistre was elected Chairman of the Council, Miss I. M. Shrigley was elected Hon. Treasurer, and Mr. T. M. Herbert was elected Hon. Secretary. The names of those serving on the various committees during the past year will be found below together with a summary of the work of the committees; a full list of the Council for the ensuing year, 1946–7, is printed on page 6.

Finance and Membership

Those elected to serve on the Finance and General Purposes Committee for 1945–6 were as follows: Miss I. M. Shrigley (Chairman), Mr. Ivor B. N. Evans, Mr. H. Hyams, Mr. E. R. McColvin, Miss A. M. Mostel, and Mr. F. C. Mitchell.

The total membership on 30 June 1946 was 712 as against 530 at the same period in 1945 and 475 in 1944. This marked increase in the last twelve months is paralleled by similar increases of activity in all sections of Aslib's work. It is also reflected in the financial turnover, which for the year 1945–6 was £6,584 as against £4,018 in the previous twelve months.

The audited accounts for the year ended 30 June 1946 have been circulated to all members and will be presented for acceptance at the 1946 Annual General Meeting. Membership subscriptions have risen from £1,628 in 1945 to £2,215 in 1946. Thus in the ensuing year Aslib has earned a larger grant from the Department of Scientific and Industrial Research. The income from the sale of publications has increased greatly and there have been further increases under the headings of Conferences and Library Training Courses. In addition, a useful sum of £253 was earned by the newly established Documentary Reproduction Service. When looking at these figures, however, it should be remembered that the end of a financial year may cut right across a particular activity; thus the net profit on the Training Courses in Special Librarianship is not nearly so much as would appear by these accounts which cover the period during which fees were paid in advance but does not include the period when the bills for expenses incurred became payable. Aslib's financial progress and stability can only be assessed by looking at the accounts over a period of years, though the present favourable balance of over £600 is a sign of healthy growth and a welcome change from previous years.

Premises

Aslib is already in danger of outgrowing its premises. Developing activities mean a larger staff and more publications mean more room for book-stocks. It had been hoped to be able to move again in the near future, since the Bloomsbury Street premises were originally intended for a few months only, but the desperate scarcity of labour for building makes it unlikely that it will be possible to get other offices repaired for some considerable period. The basement is being rehabilitated and, when ready, will allow for some further expansion, but Aslib still requires a suitable room of its own for committee meetings, for student classes, and for a meeting-place for members.

Northern Branch

A Lancashire and Cheshire branch of Aslib, of which Miss B. M. Dent of Metropolitan-Vickers Electrical Co. served as Hon. Secretary, was active during the years 1931–36 and a Union List was compiled of technical, scientific, and commercial periodicals taken by nine libraries in the district. Its activities were suspended during the war, but the suggestion of a Northern Branch was revived at the meeting organized by Aslib in Manchester on 8 May 1946. The branch was formally constituted at a meeting held in Manchester on 27 June, when it was agreed that the area to be covered should be anything north and west of a line drawn roughly from the Humber through Nottingham, Leicester, and Birmingham to Bristol. For the present the Northern Branch will be financed by five shillings from each member of the branch to which an additional five shillings will be added from the general funds in respect of each of these Northern Branch members. Meetings are to be arranged in different towns in the area to discuss problems of particular interest to members in the area.

Policy Committee

In April 1946 the Aslib Council appointed a special Policy Committee to review the Memorandum and Articles of Association, to make recommendations as to the relationship between the Council and its committees, and to advise on the internal organization of Aslib administration. The following were appointed to serve: Mr. C. Le Maistre (Chairman), Mr. R. Brightman, Mr. B. Agard Evans, Mr. B. Fullman, Mr. T. M. Herbert, Professor R. S. Hutton, and Miss I. M. Shrigley.

Up to 30 June the Committee had held six meetings and had achieved a great deal of work. Its recommendations as to amendments to the Memorandum and Articles of Association, having been accepted by the Council, have been circulated for the consideration of members before the Annual General Meeting. The development of Aslib in recent years has been of a nature which was not wholly foreseen by those who drafted the original articles and some of the procedure, such as that laid down for the conduct of a contested election, is unnecessarily complicated and lengthy. There is no suggestion that the spirit of the Memorandum and Articles should be changed, but it is felt that the suggested modifications would result in smoother working and greater efficiency.

The Committee has drafted proposals for defining the relationship of the Council and its committees and for the reorganization of certain aspects of internal office administration. In this connexion may be noted the change, which in fact took place early in July (i.e. outside the period actually under review), whereby the Council agreed that the office of General Secretary should be redesignated Director.

With the expert help of the Auditors, the Committee also made recommendations to the Council regarding the allocation of the Aslib income to its various activities, including the recognition that provision

should be made for building up a fund to finance those publications, such as a new edition of the *Directory*, where expenses of compilation must be met some time in advance of any income from sales.

Conferences

The following agreed to serve on the Conference and Programme Committee for 1945–6: Professor R. S. Hutton (Chairman), Mr. D. V. Arnold, Mr. J. J. Eaton, Miss M. Gossett, Mr. W. J. Merrick, Miss M. Shaw, and Mr. G. Woledge. A very successful annual Conference was held at the Portland Hall, The Polytechnic, London, during the week-end 15 and 16 September 1945. Over 260 members and guests were present, and a particular welcome was extended to our friends from France and the Netherlands who for the first time since 1939 were able to join the gathering.

In addition to the usual September Conference, Aslib organized three other one-day meetings. The first was on the Indexing and Filing of Unpublished Material, held at Friends' House, London, on 15 February 1946, when about 150 members and guests were present. The proceedings of this meeting have now been separately published.

A Conference on the Planning and Equipment of Special Libraries was held at the Royal Institute of British Architects on 6 April 1946, when about 145 were present. A third meeting, on Industrial Information Services, was held at Manchester on 8 May. About 110 members and guests attended and it was decided to proceed with the formation of a Northern Branch of Aslib (q.v.). The proceedings of both these conferences will be published in due course.

Training Courses in Special Librarianship

A week's Study Group in Special Librarianship was held in July 1945 in collaboration with the Library Association. The emphasis was placed on opportunities for discussion and visits to libraries, though there were lectures in the mornings and evenings. Forty-five students registered for the full course and about 20 more attended individual lectures. The course proved to be very successful and was repeated, with a still larger number of students, in August 1946. During the autumn and winter of 1945 various Aslib members co-operated with the classes on special librarianship organized by the Fulham Commercial Institute, the heaviest task in this connexion being undertaken by Miss I. M. Shrigley of the Institute of Bankers. A course of twelve advanced lectures on Special Librarianship was then organized by Aslib during the period May to July 1946, for which 72 students were registered.

Members of the Education Committee: Mr. E. R. McColvin (Chairman), Dr. W. Bonser, Miss M. Couldrey, Mr. B. Fullman, Dr. R. S. Hudson, and Miss I. M. Shrigley. Contact regarding library training matters was maintained with the Library Association and the University of London School of Librarianship.

Publications

The following agreed to serve on the Publications and Editorial Committee for 1945–6: Mr. Theodore Besterman (General Editor and Chairman), Mr. J. J. Eaton (Hon. Editor *Conference Report*), Mr. B. Agard Evans (Hon. Editor *Aslib Information*), Mr. B. Fullman, Mr. W. R. Le Fanu, Miss A. M. Mostel (Hon. Secretary to the Committee), and Dr. R. Schultze (Hon. Editor *Book List*). Printing conditions remained far from normal throughout the year and there were exasperating delays, but Aslib's publishing activities took a long stride forward, as is already evidenced by the accounts.

The Journal of Documentation, edited by Mr. Besterman, has made an extremely good start and subscriptions have been received for almost all the available copies of vol. I. A larger number of copies of the issues of vol. II has been printed to meet steadily increasing demands.

The usefulness of the *Aslib Book List* has been increased by the publication of the *Collective Author and Subject Index* to the first ten volumes of which over 400 copies have been sold. So many of the back numbers of the *Book List* are now out of print that the Council have authorized the compilation of a consolidated edition covering the eleven volumes, 1935 to date. When this is published it will form a most useful classified list of recently published works in the scientific and technical field.

Non-member subscriptions to the *Book-List* now number 463, of which 196 are distributed through the British Council.

With the increase of Aslib membership and the expansion of its activities have come increasing demands on the space available in the bulletin, *Aslib Information.* The Council has therefore decided that, as from July 1946, it shall be published monthly although for the present its size must be restricted to a single sheet for two out of every three issues.

The first edition of Mr. J. E. Wright's *Manual of Special Library Technique* was quickly sold and a second, revised, edition was put in hand. Unfortunately one of the last of the bombs on London destroyed a considerable part of the type and the subsequent replacement of the blocks, &c., has caused far longer delay than was anticipated. It is hoped, however, that it will soon be available. Other Manuals in this series are in active preparation.

The third edition of the Select List of *Standard British Scientific and Technical Books* was published in May 1946; it has had very satisfactory sales to date and considerable publicity has been given to it through the kindness of the British Council.

Dr. W. O. Hassall's *Select Bibliography of Italy* was published in May 1946. It lists a thousand books about Italy, its geography, populations, cities and regions, its language, literature and history, its social, economic, and political life and its art and music. Aslib's publications have hitherto been so much on the scientific and technical side that it is as well to be reminded that by the intention of its founders Aslib was formed to cover all aspects of specialized information. A *Bibliography of Heraldry*, compiled by Mr. S. T. Cope, is scheduled for publication in the forthcoming year.

Reports on the three one-day meetings, already mentioned under the heading 'Conferences', are in active preparation and will be published as soon as possible, together with a history of the Aslib Microfilm Service and a report of the Conference on Microphotography held in 1945.

Disappointing delays have occurred in connexion with the publication of a *Catalogue of Films of General Scientific Interest* compiled by the Scientific Film Association, but this is nearly ready for publication. It is to be followed by a companion *Catalogue of Medical Films*. A number of guides and directories of various kinds are under consideration.

The most disappointing news is that concerning the guide to *British Sources of Information*. This was compiled under the direction of the Publications and Editorial Committee at the request of the British Council, but a series of mishaps has delayed the actual publication. It is hoped that it will be available before long.

Public Relations

The following agreed to serve on the Public Relations Committee: Mr. B. Agard Evans (Chairman), Mr. R. Brightman, Mr. Ivor B. N. Evans, Dr. W. O. Hassall, Mr. F. Hughes, and Mr. E. N. Simons. Besides advising on methods of obtaining publicity for Aslib, the main work of the Committee has been the compilation of a handbook descriptive of Aslib and its work. It was no easy task to reconcile the outlook of those members of Council who favoured academic reticence with the view of others more accustomed to forthright advertising, but Mr. Ivor Evans nobly undertook the thankless task of preparing the first draft and accepted with equanimity the divergent views expressed upon it. The final production, a synthesis of effort, will undoubtedly help to explain Aslib's very varied functions to new members and others interested.

Information

Members of the Information Committee for 1945–6 are: Mr. R. H. Hill (Chairman), Miss M. Couldrey, Mr. H. Hyams, Mr. W. R. Le Fanu, Mr. G. A. Shires, Mr. H. T. Pledge, and Mr. W. E. White. The Inquiry Bureau is in steady demand and recorded inquiries, including book loans, numbered over 1,800 in the year ending 30 June 1946. Forty-five requests for the services of translators were registered and a number of titles has been added to the special index of translations. The indexes showing the location of war-time issues of German periodicals are being maintained and are in frequent use.

Documentary Reproduction Service

For many years Aslib has helped to locate books and periodicals not available through the ordinary library channels. During the past year this service has been extended to include the reproduction, in photostat or microfilm, of those papers which cannot be borrowed. The Aslib library of microfilm master-negatives of German periodicals provides one great source of supply for rare material; in other cases Aslib has

obtained permission to have photographs made of British publications now out of print and in demand by libraries overseas, particularly those in liberated Europe. The service was started at the beginning of February 1946 and 230 orders had been received by 30 June. (It should be noted that any one order may contain forty or more items for location and copying.) Contacts on an exchange basis have been established with documentation centres in France, the Netherlands, Switzerland, and Italy and photostats or microfilm have been dispatched to most countries of the world. At one period there was bad delay in the service through the fact that the library of master-negatives had to be temporarily stored owing to lack of housing accommodation, but it is hoped that the next twelve months will see this service established on a properly organized basis and fulfilling an increasingly useful function as a supplement to normal methods of obtaining information.

Aslib Microfilm Service

Early in the autumn of 1945 it became evident that with the cessation of hostilities there would be a sharp drop in the demand for microfilm, particularly in view of the fact that the large orders for the British and U.S. Governments would quickly come to an end.

It was realized that there would be certain continued requests both for reproductions from the Aslib library of master-negatives and also for new photographic copies of scarce material, but it was felt that the demand would be too small, particularly during the present scarcity of good microfilm readers, to make the maintenance of the Aslib Microfilm Service an economic possibility. At this juncture the Royal Society of Medicine offered to take over the unit as a whole and to transfer it to work on a project for providing medical publications needed to rehabilitate the war-devastated medical libraries of Europe. Permission for the transfer was sought, and obtained, from the Royal Society and the Rockefeller Foundation which had done so much to establish the Microfilm Service, and the unit became the Central Medical Library Bureau of the Royal Society of Medicine as from 1 January 1946.

The history of the Aslib Microfilm Service during the four years 1942–5 has been written by the Director, Mrs. Lucia Moholy, and will be published by Aslib. For security reasons little could be said about the extent of its work during the war, but the fact that the library of master-negatives, which remains the property of Aslib, comprises some 14,000 separate issues of approximately 500 titles (equivalent to a total of over a million pages) gives some indication of its extent. There is little doubt that the importance of this work and the service rendered to British and Allied governments helped considerably in securing official recognition of Aslib's potential value. A summary of the accounts has been circulated.

British Union Catalogue of Periodicals

Work on the *Union Catalogue of Periodicals in British Libraries* has continued under the guidance of Mr. Theodore Besterman as Editor and

Executive Officer. A fuller report on the progress of the work is printed on page 125.

Collaboration with other Organizations

Aslib is represented on committees supervising the preparation of the new English editions of the *Universal Decimal Classification* which are being published by the British Standards Institution. The reopening of communications has enabled Aslib to renew its contacts with the Fédération Internationale de Documentation at The Hague and to take part, once again, in the international discussion of documentation.

As a result of decisions taken at the 1945 Conference, a joint committee with the Association of Scientific Workers was formed to consider proposals for the reform and rationalization of the publication of scientific material. The committee's memorandum was surveyed at length in a leading article published in *Nature* (8 June 1946) and the subject was included in the debates of the Royal Society's Empire Scientific Conference.

At the invitation of the Royal Society Aslib submitted a paper on Scientific Information Services to the Empire Scientific Conference and was represented at a Cambridge meeting when the subject was discussed.

Throughout the year Aslib has been represented at the meetings of the Enemy War Time Publications (Requirements) Committee (better known as EPCOM) of the Control Office for Germany and Austria. It is through this Committee that the needs of libraries have been co-ordinated in respect of German publications and machinery has been set up for their collection and import when available. In those cases where not enough copies can be found in Germany to satisfy all needs, it is the Committee's intention to endeavour to see that such copies as can be secured shall be allocated to libraries accessible to a wide range of research workers.

Aslib took a keen interest in the creation of UNESCO and has a very strong link with it in the person of Mr. Edward Carter, former Librarian of the Royal Institution of British Architects and Chairman of Aslib Council, now Counsellor for Libraries and Museums to the Preparatory Commission of UNESCO. At the invitation of the Ministry of Education Aslib will be represented on the Library section of the British National Co-operating Body.

At the invitation of Aslib a Conference of those interested was called in November 1945 to discuss a project for the compilation of a Union Catalogue of Music. An Executive Committee was then formed, under the chairmanship of Dr. E. H. Fellowes, the necessary funds were obtained, and with Professor Deutsch as Editor and Mr. Theodore Besterman as Hon. Secretary, work has now begun. The project is independent of Aslib, but Aslib is proud to have been able to help in the initial stages.

Other organizations on which Aslib is represented are the National Central Library (Mr. B. Fullman), the National Book League (Mr.

Francis Hughes), the Inter-Allied Book Centre (Mr. Theodore Besterman), and the British Society for International Bibliography. With regard to the last, preliminary steps have been taken to explore the possibility of a definite scheme of co-operation or even coalescence of the two bodies. If the Aslib membership approves at the 1946 Annual General Meeting a special joint committee will be set up to discuss the problem in detail. The two organizations have over 70 members in common, their interests cover closely similar ground and many of their functions overlap. Both nationally and internationally the cause of documentation would probably benefit if unity could be achieved.

The diversity of this record of Aslib's work during the past year is a testimony to its vitality, but since it derives this from its members and the co-operation which it receives on all sides, the record would not be complete without an expression of sincere gratitude to all who have given so freely of their time, energy, and both moral and financial support.

E. M. R. DITMAS

Director

The Intelligence Group in a Technical Team

By SIR REGINALD E. STRADLING, C.B., M.C., D.Sc., F.R.S., M.I.C.E.

Ministry of Works

WHEN your Council did me the honour of inviting me to act as President of the Association for the next year, I could not at first quite understand why I had been invited. I have no specialized knowledge of library technique and did not see very clearly how I could help. However, some of my many friends in the Association pointed out that I was a client who had taken advantage from the earliest days of the facilities provided by Aslib and was regarded as one who fully sympathized with the work. Both these statements are true and further I am very conscious indeed of the help I have been given and anxious to repay in any way I can. Thus I can only address you as an amateur in your technical work, but with some experience of what technical library work in the partnership of research entails when an effort is made to apply scientific knowledge and method to the problems of a particular group of industries—in my case those of Building and Civil Engineering.

First I want to discuss the type of organization I know best. This is research work on the problems of an old industry and carried out under State control. The major difficulty in such work is that there are no ready trained scientific workers. Directly a study is made of a long-established human activity like building it is realized that the academic divisions of science found convenient for university teaching, and based largely upon the way in which scientific knowledge has grown, have no division specifically directed to the practical need of the industry. I suppose all large-scale human needs demand the same type of knowledge, that is, a combination of all branches of science each contributing its quota to the applied science of the particular case.

Thus this central difficulty decides the type of organization necessary. It may be that as the new ideas now being mooted in connexion with higher technological education find their practical application some of this difficulty will be removed. Certainly progress will be much more rapid, for the industry itself will become more receptive as it becomes more scientifically trained. The type of organization then is ideally a closely knit team of workers of widely differing training, each worker contributing to the body of knowledge required to carry out the practical human activity the whole team exists to serve.

The start of any such team of workers is usually worked out in terms of the simpler and more immediately appreciated physical factors; it is only later and with experience that the field is widened and the realization comes that the analysis of any real human activity cannot be restricted to the terms of the physical sciences. The science and witchcraft of medicine are essential, and the newer studies of economics and sociology, now becoming quantitative by the use of modern statistical

methods, are taking a vital place in any team and on certain sides a leading place.

Such ideas are, of course, not easily accepted either by the scientists who think science is merely physical science, by members of an industry based largely on craftsmanship and small-scale business training, or even by the Civil Service who decline to acknowledge economics and sociology not only as sciences but as fit members of a scientific team. In my experience, the most receptive of new ideas are the more wide-awake sections of the industry itself, and it is from this source that most encouragement comes to continue the struggle for scientific investigation of human activities.

The problem before the leader of a composite research team of the kind suggested above is thus not to do research, but to help to create conditions under which his specialist colleagues can work without the feelings of frustration which can so easily result if an atmosphere of freedom is not allowed to develop and too much regimentation occurs. As far as I can judge, it is only to the degree to which the scientific worker can remain the individualist his training has made him that he will really be able to contribute the best of which as a human being he is capable—anything less will create frustration. This is peculiarly likely to happen with scientific workers. To do their job efficiently the whole of their mental make-up is involved. Their work usually means everything to them, and any obstruction, real or imagined, can reduce their efficiency and output to a low figure. Thus I have arrived at a type of phrasing which does reflect my personal outlook on this team work. It is an organization for the large-scale production of knowledge. It is not 'mass' production in the sense of producing large numbers of identical articles, but it has one feature in common with efficient engineering production. Each member of the team has his special contribution to make, dependent upon his capabilities. At first sight it may seem that such arrangements are the negation of personal freedom, but in fact with the best men this is not felt in general to be the case. It is a 'team' freedom, common enough in the best of other human activities, and frustration is experienced when the progress of the team as a whole is obstructed.

This team work is necessary partly because the subject is a human activity as a whole and partly because of the intense specialization now common in scientific training—if it ever existed the day has long since gone when any man can have a complete knowledge of science. Further, science is not restricted to one language, and for an individual to keep in touch with the development of his subject is no easy task despite the assistance given by existing abstracting services and the like. Thus in the applied science research team there is a very special need for 'intelligence work' as an integrated part of its make-up. This seems quite commonplace to those of us interested in Aslib, but it is not yet grasped sufficiently by those who sometimes have a say in our conditions of work.

In my experience it is not common to find a combination of scientific

skill and facility with foreign languages. In the much narrower ambits of the academic research worker it may be possible for him to maintain sufficiently close contact with his fellow workers abroad, but one knows many cases where this has not been possible. With the team worker this individual 'intelligence' work is not entirely practicable, for the field is too wide and in addition the applied science researcher has 'to keep his eye on the ball'. My experience has been that it is essential in this type of research to have in the team a group whose duty it is to concentrate upon intelligence work, in the widest sense. It must cover day-to-day knowledge of the requirements of the rest of the team and also must warn them of the developments in the industry for which the whole organization is working. Thus the intelligence group can often hold the key position in a team; in fact it should in my opinion. A really efficient group which wins the trust of the rest of the team will become the first approach for all both inside and outside the organization. But to achieve this useful role it must not be regarded, or regard itself, as a kind of 'Cinderella'. Aslib has accomplished much by educating all of us as to the importance of the intelligence group, and it is with something approaching dismay that one realizes some of the latest tendencies in the grading of senior posts in this work.

The training of a senior for intelligence work is every bit as lengthy and intense as that of a specialist research worker in one of the academic divisions of science.

He requires a flair for languages and a basic general training in science. This training should be as wide as possible. A general degree in science should be the minimum, industrial experience an added advantage, and two or more foreign languages an essential. Such training is no small demand yet is necessary if the intelligence group is to do its job efficiently. Though a library is the natural centre round which such work should be organized, there is an attempt to belittle it by describing it as confined to the technique of cataloguing and handling books. Whilst such technique must be used, the work which, as I have already indicated, I should expect of the senior intelligence officer is something much wider.

Further, in organizing a large staff for applied research it must be realized that choosing men by academic standards only is useless.

Industrial and other experience is required in various sections of the team and this has been just as difficult (often more so) to obtain as academic distinction; further to complicate organization a very artificial distinction is growing up between scientific workers in the academic sense and those whose experience is of equal importance in the solution of applied research problems. So varied are the members of a team of this kind that their capacity for getting the most out of intelligence work or even the strict library portion of it is equally varied. So much can be done to ease this position if the personnel on the intelligence side can go a considerable way towards a real technical appreciation of what their fellow worker from the other side of the team really is seeking. The existence in a research team of a man who knows

intimately the resources of information at his disposal and who can also understand what the research worker wants is in my opinion one of the major advantages that can come from team work. The feeling of relief to the inquirer if he suddenly meets in a library an official who really understands what is being sought and will and can help has to be experienced to be believed. Such facilities are important from the point of view of the efficiency of the work of the team, for encouragement is given to the individual worker to use the intelligence services.

Now I have stated my case for the need for highly and scientifically trained leadership in intelligence work. A few months ago I should have imagined there was no point in spending time in discussing the subject, but from recent trends, particularly in official circles, it seems the problem is not realized. I am, of course, most anxious, personally, that intelligence officers for research organizations shall be graded as scientists and trained as such, but the problem seems to me to be the same wherever technical staff are working as a team. Thus in my present work in a Ministry whose duties are mainly technical, the problem is just as acute. All practitioners of applied science are up against the great difficulty of keeping up to date in their profession. In the rush of everyday practice it is very hard to find time to read even the most superficial of the technical journals. When a large body of technicians is brought together as a team for the service of the State, it seems to me not only a duty but a magnificent opportunity to create facilities which will make this team as efficient as possible. An intelligence group centred round the library is one of the most valuable tools which can be forged for this purpose, but as in the case of the scientific team, properly trained staff are required. Applied science develops chiefly in two ways: (*a*) by the genius of the practitioner in finding some new way of utilizing his existing knowledge, and (*b*) by more 'pure science' being taken over for application. Thus the practitioner's approach to an intelligence group, usually thought of by him as 'the library', is to obtain help either on what other practitioners have done or on further 'pure science'. It is hard to imagine that there can be any doubt as to the type of leader required for the intelligence group in such cases. If the intelligence is to be active and not merely passive, 'butting in' and persuading the rest of the team to use its facilities and not just 'waiting for customers', then the leadership of the group must of necessity be by one who can understand the work of the practitioner and lead him to the further use of 'pure science'. In my opinion again a scientific training is required and additional industrial experience.

In this attempt to express my personal views on the leadership of and duty of intelligence groups I have, of necessity, drawn on my own experience. But it seems to me that exactly similar considerations must form the basis for the formulation of intelligence groups for any team for which such work is required. This may vary from the almost pure science emphasis for the scientific research team to the almost pure 'English' or literary emphasis required for the more public type of library work, where the general reader is the client. In all cases the

main need is for an active encouragement in the use of facilities provided and not a conscious or unconscious passive waiting for someone 'to come to the library'.

Now may I turn to a few comments on Aslib as an organization? To the Director and her staff as well as my colleague Mr. Agard Evans I am very deeply indebted for the facts given below and for the efforts they have made to bring me up to date in the present work of the Association.

Through most of its life I have followed the developments of Aslib, and it now appears to me to have reached a new high level of usefulness.

An outstanding feature is the steady and rapid increase in the industrial membership. Twenty or thirty new industrial members are added to the membership every quarter. This is satisfying evidence of the increased attention being paid by manufacturing organizations to the need for co-ordinated scientific research: a need which was emphasized last year by the Committee of the Federation of British Industries. Also it means that Aslib is giving a service which is found to be of practical value, inasmuch as business organizations are willing to pay for it.

The Annual Conferences also have emphasized the world-wide interests of Aslib. Successive conferences have dealt as a main feature with the rehabilitation of war-damaged libraries both at home and abroad; the Empire contribution to the flow of world information, at which papers from all the Dominions were read; links with the U.S.A., last year; and then this year papers on aspects of documentation in Europe. These conferences seem to me entirely in line with modern tendencies and tie up with the Empire Conferences of the Royal Society and the Commonwealth Governments which have been taking place this summer and also with the work of the newly created UNESCO for developing co-operation in all the fields of cultural knowledge. It is gratifying to observe that Aslib was invited to contribute papers to both these larger fields.

The individual sessions on indexing and filing of unpublished material, planning and equipment of libraries, and industrial information services all serve to disseminate ideas on topics of vital interest to many organizations. I hope that these sessions will continue to be a feature of Aslib activities.

The establishment of the Aslib Microfilm Service during the war, with the aid of funds and assistance from the Rockefeller Foundation, proved to be an excellent thing and was largely responsible for the more rapid spreading of information contained in enemy periodicals. In addition to the help it gave the authorities in this country it was appreciated and used considerably by the Governments of the U.S.A. and the Dominions. In many ways it is to be regretted that it was not possible to maintain the service under Aslib auspices into the peace, but the present employment of the unit by the Royal Society of Medicine is of real value in spreading the knowledge of accumulated medical

developments to centres which were destroyed or cut off during the war. Although the difficulty of easily handling microfilm is well known to most of us, it has, within its limitations, a useful role to play for the transmission of information by air and for reducing the bulk of records which must be kept, but which are not frequently consulted. Whether there is any future in the microcard library it is perhaps premature to prophesy, but Fremont Rider has certainly made out a good case for its adoption in certain circumstances.

It is interesting to note the increased activity of Aslib as a publisher, for in the Association there is available much material that can be shared and Aslib is the right body for the co-ordination and the presentation of information that belongs to no single-member organization. The *Select List* and the *Book List* are old stagers that have proved their worth, but the publication of catalogues of scientific films, special bibliographies, instruction manuals, and similar matters are evidence of the wider part that Aslib is now playing. The *Journal* which has just started on its second year is a useful medium for the exchange of ideas and the recording technique in this highly skilled and diverse profession. I hope that it will not be too long to wait for the issue of a new edition of the *Aslib Guide to Sources of Information in the United Kingdom.*

Aslib has stepped into the breach with the short courses on library technique; I understand they have helped to fill the unfortunate gap caused by the closing of the London University School of Librarianship during the war.

Aslib is to be congratulated on taking the lead in the preparation of a *British Union Catalogue of Periodicals.* It is a tribute that the Rockefeller Trust should transmit the funds for this major work through Aslib. I understand that considerable progress has already been made and that the check lists may be available in two years' time: a rate of progress testifying to the vigour of Mr. Besterman.

In this brief review I have referred to the major activities of Aslib but have necessarily omitted reference to the bread-and-butter work of the information service; the ceaseless introduction of people who want to know to the people who do know; the representation on committees for the education of librarians, the production of the English edition of the *U.D.C.*, the acquisition and tracing of German literature, the question of copyright, and similar activities.

Such is the latest record of the Association work I have gathered by my recent contacts. May I offer sincere congratulations to all those concerned? It seems to me a record of which they and the Association have every right to be proud.

Now, what of the future? May I offer some suggestions? Aslib is well on the way to becoming a learned society. It has started just as the older ones did—by a few far-seeing enthusiasts, as a centre for exchange of information and ideas. Naturally the emphasis has been on the 'library side'; the collection, codifying, and making available of information. Such work is obviously essential and will always be a main duty of the Association. But there is one side of the day-to-day work of our

members on which research is most urgently required and which Aslib is probably most fitted to undertake. I have already mentioned it. How can the intelligence group get its facilities more completely utilized by the rest of the team? Your work seems to me the key to effective organization of teams of technicians, yet in so very many cases it is the least efficiently used. As mentioned earlier, I think we must make our duties much more active. We must not wait to be asked for information, we must take our real place in the team and be contributing the whole time. This is easier advocated than carried out. Clumsy 'salesmanship' can bring heart-breaking snubs; aggressiveness produces charges of 'empire building'. What are the most effective means of getting our work utilized fully? Obviously in these human-relationship problems much depends upon the personalities of those concerned, but much can be learned from the practical experiments you are perforce carrying out every day. Cannot we study this aspect of our work rather specially and help each other by exchanging the results of these experiments? Is it not worth while having meetings for the discussion of this subject?

If we could undertake such work we should be making a very real contribution to the solution of our present-day difficulties. Knowledge is accumulating at a great rate—too great I think for any individual working alone to keep pace with. Our Association has been created to help in the solution of the problem; we have a great deal of knowledge on how to collect information; can we now explore, urgently, the best methods of getting it used?

The Preparation and Coverage of Critical and Select Bibliographies

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MY subject does not seem to have been dealt with in a general way before, though related problems caused by inadequacies in the recording of scientific writings and in the provision of adequate abstracts of original papers have been under discussion for many years. My impression is that the gap between what is and what might be is as large in the subject at present under discussion as it is in indexing and abstracting, though the ideal is, in my case, more easily described.

The notes contained in this paper are based on the examination of bibliographies in many different subject fields. Those bibliographies which seemed to illustrate a point in my notes are cited in the list of references appended to this paper. One purpose which this very miscellaneous list of works might serve is that of drawing the attention of librarians and subject specialists to the way in which the problem is being tackled in several different fields. A person compiling a select bibliography on any one subject should be able to draw on a general corpus of knowledge of bibliographical method; perhaps my references taken together will provide some illustrations. The annotations to the entries in some of the bibliographies quoted have been taken from abstracting journals; these bibliographies may thus be described as a development from the latter. The existence of these collections of abstracts specially selected from abstract periodicals is one piece of evidence that abstracting journals by themselves are often insufficient.

I have divided my material into three classes: (*a*) select and critical bibliographies of the literature of one subject as it stands at a named time; (*b*) critical bibliographies published serially or in serials; and (*c*) guides to the literatures of various subjects. There is some overlapping between the three classes, but the distinctions between them seem valid for the purposes of this paper.

Librarians have always needed works of the first class: select and critical bibliographies. Subject specialists also need them on their own subjects, for they often cannot carry exact references in their heads (indeed they are notoriously inaccurate when they cite sources away from reference books). It is true that the verification of references can generally be done from abstracting services, but it takes longer. Subject specialists need these critical bibliographies even more in fields allied to their own.

This type of bibliography rarely strives to be complete; rather it aims at telling us the scope, arrangement, and quality of the most important works in the field with which it deals. In some sciences it may not be possible to do this at an advanced level except with a very small subject field. In other subjects there may be a quantity of

indifferent material which needs sifting. D. Pierson's recent bibliography of sociological writings on Brazil and by Brazilians[1] is a good example of this latter type. One point to note is that the presence of a title in a work of this kind is evidence that the author considers it to be of value, so that the annotations to the entries can often be descriptive only.

Another excellent example of this critical type of bibliography is that of works which serve to identify British fauna and flora, which was published in 1942.[2] The principle of representation here has been as follows. If on one aspect of the subject there is a good recent monograph, that only has been listed; if there is a good monograph which is not of recent date, it has been listed, together with more recent papers bringing it up to date; while on aspects for which no good monograph has been written, the material quoted consists entirely of papers.

Bibliographies in this class are often developed from abstracting services. The material in the latter over a period of years can be surveyed, and the writings on cognate topics discussed together. The nature of the material may prevent the elimination of many items. A good example of this type is the survey of writings on trypanosomiasis published as its first *Review Monograph* by the Bureau of Hygiene and Tropical Diseases this year.[3] Though no more critical than the abstracts themselves, the collection and co-ordination of a series of abstracts and the provision of indexes has been found useful, as is E. H. McClelland's work on enamels.[4] Another bibliography which has collected material from several abstracting services has not reprinted the abstracts themselves, but has just quoted references to them. It is that of W. F. Meggers and B. F. Scribner on spectrochemical analysis.[5] Sometimes, in works of this type, two or more abstracts may be quoted for the same paper—but in this paragraph I am touching on the more difficult problem of abstracting, with which I said I would not deal!

Bibliographies of the critical type are not necessarily separate publications. An advanced monograph may, in its citations, give one a good survey of the literature of its subject. The various sections of some of the German *Handbücher* do this. At a less advanced level a good annotated bibliography at the end of a text-book will often help. These latter are very useful to librarians, and are also of value to students; they enhance the value of text-books considerably and are far better than unannotated lists of works in alphabetical order of author. Good recent examples are included in the works of K. C. Wheare on federal government[6] and G. Smith on industrial mycology;[7] the latter has provided his general bibliography in addition to more specific references appended to his chapters. Bibliographies of this type are liable to be restricted to more easily accessible material and to writings in English only. Needless to say, they need to be examined carefully and critically and not accepted just because they are there in print.

A list of writings on soil mechanics published by the American Society of Civil Engineers[8] raises some interesting points about the compilation of the more critical type of bibliography. It was decided

to limit the number of entries in this work to 350, and the method of collecting entries was to ask 26 'internationally known' authorities to submit from 50 to 100 titles each. Of these 26 authorities, 20 were from the United States and 6 were from Europe. Nine hundred and forty-five publications were recommended in all, and of these only 320 had more than one sponsor; the most popular item had only fourteen sponsors. One would have thought that with a subject like soil mechanics much more agreement would have been found among experts; perhaps subject specialists in my audience can explain this divergence of opinion. Was the subject field chosen too large; was it because many of the experts did not really know the literature, especially the literature in foreign languages, of the subject; or was it because they had different research interests? A fascinating subject for discussion, but one far beyond my powers, would be 'How far is there disagreement between the experts who do know their subjects about the most important writings in their fields?' It would be interesting to estimate the amount of agreement in different sciences.

The majority of the bibliographies of any size that I examined had their entries classified, and the usual method of arrangement within each class was chronologically by date of publication. The earliest item was usually placed first, though one bibliography did commence with the most recent publication and work backwards in time;[9] this work, incidentally, was not classified. None of the bibliographies in my random sample used the Universal Decimal Classification. Author and subject indexes were usually provided, and would have been useful in most cases where they were not present. They would also be useful in any bibliographies classified by the Universal Decimal Classification. Printing of the entries in double columns was common and it did not usually detract from the legibility and appearance of the page. One work covering a large period of time had treated the historical material differently from the more current writings;[10] the material on the subject from 1835 to 1909 was listed without comment, while for the items from 1910 onwards abstracts were given. In another bibliography founded on abstracts the preface contains a description of the historical development of the subject.[11]

Writings in my second class—critical bibliographies published serially or in serials—either cover the writings of a year (or a few years) or are more fundamental surveys of the literature of a subject. They appear in the following forms (among others): (*a*) as chapters in 'year's works' or similar volumes; (*b*) as articles in periodicals which consist entirely of such essays (such as *Chemical reviews*); and (*c*) as occasional articles in other scientific serials. In the latter case they may appear at set intervals on the same subject, as do the 'Advances in treatment' articles in *The Practitioner*. Critical surveys are usually written up in continuous form; they have a long history dating back to the eighteenth century.

One of the main purposes of this paper is to emphasize the need for

good critical surveys of many more subjects to enable scientists and librarians to get quickly at the most important writings on scientific subjects, thus reducing the number of times it will be necessary to make more laborious investigations using indexing and abstracting services. In some subjects there is a need for critical literature surveys at different levels; the 'Advances in treatment' articles in *The Practitioner*, already quoted, extract from a large literature the most useful points for the practising doctor; a survey provided for persons doing medical research must obviously be fuller.

Even less should we expect works of this type to record everything for us, unless there is some special reason for doing so; this is a function of indexing and abstracting services. Some of the desiderata for this class of writing are stated in the preface to *Advances in carbohydrate chemistry*, vol. i:[12]

> 'It is our plan to have the individual contributors furnish *critical*, integrating reviews rather than mere literature surveys and to have the articles presented in such a form as to be intelligible to the average chemist rather than only to the specialist. . . . It may be found desirable to present several reviews of controversial subjects, particularly of those fields undergoing rapid development. . . .'

As far as criticism is concerned we should expect our writer to point out, for example, the use of an inadequate series of controls in a paper on treatment in medicine and to closely scrutinize the determination and use of physical constants in a paper on some chemical subject. Our writer should have the ability to explain the other man's work even if he disagrees with his approach. The general trends of research activities should be clearly discernible. It would also be valuable if the writer made suggestions as to the directions which further research should take. This is stated to be the aim in the introduction to *Vitamins and hormones*,[13] and has been done occasionally in other volumes (cf. 'Pertinent problems in starch chemistry', pp. 275–7 of *Advances in carbohydrate chemistry*, vol. i).

Some of the serial volumes which include several essays of this type review the literature of each subject in each volume, while in others the subjects reviewed vary from year to year.[14] This latter procedure is usually adopted when the amount of writing on a subject in one year is not large. In some of the newer annual publications it is the practice to include the two different types of article, both those covering recent writings and longer retrospective surveys. Quoting again from the preface to *Advances in carbohydrate chemistry*, vol. i:

> 'In addition to the presentation of topics covering recent advances, we are providing occasional articles which will review thoroughly special fundamental topics in carbohydrate chemistry. These articles will cover fields which have matured and will be quite complete from the historical standpoint.'

It may be that the subjects which are reviewed over a period of years are subdivisions of a larger subject which is reviewed annually elsewhere. It should be noted that the articles on the smaller subjects covering a period of years are usually more comprehensible to persons

whose main interest is *not* the particular field than are the essays in the 'annual review' volumes. Various reviewers have pointed this out.[15]

In scientific subjects discussion in chapters in annual review volumes is usually limited to periodical articles, for it is in these latter that recent research is usually first recorded. It is, however, also useful to have a record of the monographs and other books published on the subjects in question during the past year. Even if they are mentioned at appropriate places in the text, as they should be, it is convenient to have a separate record of them in a chapter or section towards the end of the volume. Such a list would be made more useful by quoting authoritative reviews for the works entered.[16] Prompt publication of the annual review volume would make it impossible to collect good reviews for some of the books, so that the alternative of reviewing the books in the annual review itself should be considered. Various annuals in the social sciences, the *British year book of international law*,[17] for example, do this. Another alternative would be to repeat the book entries in the later volumes for the sake of including specially worthwhile book reviews; this is done in the *Annual bibliography of English language and literature*.[18] This latter method does not seem, however, to be a procedure to be recommended for scientific 'annual reviews' of the type at present being considered. It is a moot point whether the complete listing of the books published during a period, with notes of their reviews, should best appear in a review serial or in an abstracting service. The *Technical book review index* does, of course, provide a general service of this kind. Cumulative indexes, author and subject, to annual review volumes are also desirable; these would be useful if compiled every five years.

If there is further expansion in this field, as seems likely, scientists must still remember that such works have limitations, and be taught that for certain purposes more thorough literature searches through abstracting and indexing services are necessary. One of the difficulties editors will always experience is that of finding suitable authors for all the essays in their volumes. Editors realize that the ideal is to have *critical* surveys of the international literature of the subject, but in actual practice their volumes usually contain some critical articles and some summaries of the literature. The editors of the *Annual review of physiology*[19] confess, in their preface to vol. i, that their work has this character and reviewers have pointed it out as true of other volumes, including such authoritative works as the *Annual review of biochemistry*.[20] Once a scholarly annual review has established itself it should be possible for progress to be made in this way. The *Annual digest and reports of public international law cases*,[21] for example, has in its later volumes made such progress; it now reports the substance of the cases with which it deals rather than simply digests them.

It does, of course, require more time to write a critical review than to list or abstract the literature of a subject without critical comment, and this is likely to be reflected in the date of publication of the serial. Many of the German *Jahresberichte* (e.g. the *Jahresbericht über die*

Leistungen der chemischen Technologie) and several of the American medical year-books were, or are, non-critical; convenience of reference and amount of detail are their principal merits. They serve a different purpose to the review volumes under discussion at present.

Another important point is that in most cases it is very desirable that the original papers on the subject in all languages should be reviewed. This again is an ideal to be worked for rather than an end which has been attained. Just as there is a good case for allowing different persons to treat a 'controversial' subject from time to time, so there is an argument for employing persons of different nationalities. Before the war *Ergebnisse der Enzymforschung*[22] included articles in English, French, and German in the same volume. In this type of serial we do not want works like the fortunately short-lived *Annual survey of American chemistry*.[23]

One difficulty the author of a critical literature survey must face is that of dealing impartially and, if needs be, disparagingly with the work of his friends.

As yet only a small fraction of the possible subjects are covered by regular review articles, and there is an obvious need for more works of this kind in other subjects, such as branches of engineering, and in many of the social sciences. Efforts are being made in some of these fields; the *Journal of the Institution of Electrical Engineers* has promised some review articles in forthcoming issues. It seems that, in subjects like this one, we must, for the present, be content with occasional articles in the more general type of periodical, in default of more suitable annual survey volumes or special survey serials like *Chemical reviews*.

The annual survey volumes that I have discussed so far have confined themselves in the main to writings on their subjects. In some fields, however, it would seem desirable that events should be recorded, whether or not they have been described in print. *The mineral industry*[24] was a hybrid work. In some of its chapters it surveyed the literature of its subject, while in others it gave statistics and other information based on unquoted sources. Incidentally those articles which did survey the literatures of their subjects often gave their references as footnotes to each page, and ended with a list of papers *not* cited, thus attempting to be both critical surveys and more complete bibliographies too. There is yet another type of literature survey, that which takes a large group of subjects and deals with developments in them in a certain part of the world. The *Handbook of Latin American studies*[25] does this. Undoubtedly this work is of considerable value, though at first sight it contradicts the principle that subject bibliographies should be truly international in scope if possible. In this serial, however, some of the subjects dealt with are best treated by locality, while a reason for the inclusion of other subjects has been the relative inaccessibility of some of the printed material.

Since survey writings are increasing in number there would seem to be good reason for having a special periodic bibliography of them, and for this bibliography to be critical. Such a bibliography would be hard

to compile, for, as I imagine it, it would not be restricted to any one field of science. It would bring out, for example, that literature on television had been reviewed in the *Report on progress in physics*[26] for 1941, and give an estimate of the survey as a reliable guide to what has been written on the subject. It would have to be decided whether literature surveys in monograph form were to be included; my proposal would be that they should. When the indexing and abstracting of scientific literature is reformed it might prove easier if the editors of my critical bibliography had assistance from the editors of subject-abstracting services. It is true that literature surveys in periodicals can at present be traced through abstracting and indexing services in special subjects. This takes a little time and, unfortunately, abstracting services are usually content to list literature surveys without comment. If it is desirable to summarize the important results and conclusions of research papers in an abstract, it is surely within the province of the latter to describe the scope and quality of a literature survey, saying, for example, how international in character it is. In default of my special critical bibliography it would be helpful if abstracting services would improve themselves in this respect.

A third class of bibliographical writing which I wish to discuss I will call 'guides to the literatures of various special subjects'. The type of book I have in mind would usually cover a larger field than do the critical bibliographies I have placed in my first two classes. It would discuss the growth of the literature of its subject and explain its present-day status. The principal bibliographies, encyclopaedias, dictionaries, and histories of the subject would be entered and criticized, and the methods of searching through the literature of the subject described. The description of library and other information sources might well be included. If the main part of the book described the international literature of a subject, it might well have different supplements or final chapters for different countries to show how far the material is available in each.

Generally this type of work would not attempt to list all the important monographs on special aspects of the subject, but it would probably quote a number of them as illustrative examples. The combination of a subject specialist with a special librarian as authors of such a work would seem to be suitable. Unfortunately there are very few subject specialists who are both capable and willing to undertake such work; generally they are more interested in pursuing particular lines of research than in accurately mapping the field for others. The financial rewards of such works would probably be poor. Yet the use of such books would be great, and it would seem that interested societies might well give such projects financial backing. Small editions only should be printed, so that such works could have the frequent periodic revision which they would undoubtedly need.

Very few books exist which approach the type of work I have in mind. Some brave efforts have been made in chemistry from Crane

and Patterson[27] onwards. J. K. Wright's *Aids to geographical research*,[28] a revised edition of which has been announced, may also be quoted. On some subjects a national limitation of subject-matter imposes itself naturally, as in law, so that works like those of F. C. Hicks[29] and the various guides to the law and legal literature of foreign countries issued by the Library of Congress are very proper efforts in their respective fields.

Ancillary to these guides to the literatures of special subjects we need critical bibliographies of the indexes and guides to special forms of publication, such as dissertations and government publications. These, too, would benefit by as much explanatory material as possible being included. Even less than the guides to special subjects would they need to mention the individual titles of monographs. The guides to the government publications of certain American republics issued by the Library of Congress are examples of the type of work I have in mind. In this field, as in the others I have dealt with, there are plenty of lacunae!

Scholarly bibliographical work of any of the three types I have described should be carefully sought for by librarians interested in the subject fields with which such works may deal. They are likely to be among a library's most important reference materials. In some scientific subjects there is an increasing number of review annuals and serials, and the purchase of these may strain a library's finances. If such serials are of repute they should not be rejected; if necessary the library's funds should be increased to pay for them. It is a special library's duty to support good works of this kind within its subject field. Libraries of a more general character should also seriously consider the purchase of good annual survey series which they do not subscribe to at present, even if such libraries do not hold many of the periodicals from which the material for the survey articles have been taken.

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24. *The mineral industry; its statistics, technology and trade*, vols. i–l (1892–1941). McGraw-Hill.
25. *Handbook of Latin American studies*, vol. i (1935) *to date*. Harvard University Press.
26. V. K. ZWORYKIN and R. E. SHELBY, 'Recent television developments', pp. 135–85 of Physical Society, *Report on progress in physics*, vol. 8 (1941).
27. E. J. CRANE and A. M. PATTERSON, *Guide to the literature of chemistry* (1927). Wiley.
28. J. K. WRIGHT, *Aids to geographical research: bibliographies and periodicals* (1923). American Geographical Society.
29. F. C. HICKS, *Materials and methods of legal research, with bibliographical manual*. 3rd ed. (1942). Lawyers' Co-operative Publishing Company.

DISCUSSION

The Chair was taken by MR. THEODORE BESTERMAN, formerly Editor of the *Journal of Documentation* and now Counsellor, World Bibliographical and Library Centre, United Nations Educational, Scientific, and Cultural Organization.

MR. W. R. LE FANU said that Mr. Roberts had done most useful service in drawing attention to and classifying the select critical bibliographies which were being produced increasingly. It was, however, pertinent to ask for whose use these were intended. Those in his first class were primarily guides to unfamiliar territory, and of little appeal to experts in their subject. His second was the class of bibliography now in most demand by specialists. Mr. Roberts criticized the combination of critical and survey essays in the same review volume. This combination seemed essential: the critical review must be the work of an expert in the subject, while the survey ought to be by a trained bibliographer; only by such team-work could the review have the maximum merit from both aspects. In the third class, until there were location lists for other forms of literature besides periodicals, bibliographies of the guides and indexes to them would be merely of academic interest.

MR. A. E. CUMMINS pointed out that there was a bibliography which Mr. Roberts did not mention but of which members might like to know. Mr. Roberts himself had

prepared a bibliography of industrial chemistry to 1940, consisting of several hundred typed foolscap pages. He had seriously considered scrapping this as he saw no opportunity of bringing it up to date, but fortunately he had shown it to Mr. Cummins and it was now preserved in the Library of the Chemical Society.

Miss B. Schafer said that it would be a great convenience to librarians if all writers of critical monographs who gave their references page by page in footnotes would collect at the end of the volume, preferably in classified form with full references and slight annotations, lists of the most important papers and reviews in their field. Such lists were almost as vital as indexes and the scientific presses should, if necessary, encourage their authors to provide them.

Miss M. Gosset drew attention to the fact that at the foot of p. 39 Mr. Roberts wrote: 'Since survey writings are increasing in number there would seem to be good reason for having a special periodic bibliography of them, and for this bibliography to be critical.' The Science Museum Library endeavoured to give references in the *Weekly List of Accessions* to review articles which appeared in the periodical literature. These were differentiated from ordinary articles on the subject by having the U.D.C. subdivision of form (048) placed after the subject number. The references were filed in the Subject Matter Index and had proved valuable.

Dr. D. V. Arnold considered that it was a matter for regret that the references given in published papers very rarely stated the original title of the paper referred to. Although titles were often misleading, they could very usefully indicate whether the paper referred to covered essentially the same subject as the original from which reference was being made, or whether it only dealt with some very specific point mentioned in the text of the original.

Mr. A. E. Dillon advocated a greater use on the part of librarians of the *Annual Register* which he considered the most neglected of useful reference books. The section entitled 'Retrospect of Literature, Art, and Science' was an admirable critical bibliography of the year's publications, notwithstanding the unavoidable lateness of its annual appearance. He had been surprised on many occasions that people who were particularly well informed as regards public affairs did not know of the existence of this volume and what it contained.

Mr. F. Greenaway said that he would like to comment on an aspect of the critical bibliography which related to the work of industrial research organizations. An industrial scientific information officer, working in a research team, had to provide bibliographies to fit in with research projects which might extend over periods sometimes of many years. An individual bibliography might be only one link in a chain of investigation executed by a succession of investigators, and it was important that at any date subsequent to the initiation of the work anyone brought into the project should be able to get the clearest possible picture of the background. Most research units kept serial research reports, and where a company had a continuous programme of improvement to its products a long series of reports might be needed to indicate the change in point of view taking place with advances in technology. If, therefore, a new investigator or, more important, a new information officer found it necessary to refer back to previous work for which a critical bibliography had been prepared, it was essential that he should be able to see just how that bibliography had been prepared. It was therefore to be recommended that a critical bibliography prepared for a research project should have added to it a careful account of the manner of its preparation, and the attitude of mind of the investigator towards the research problem, as well as the sources consulted and the technique of consultation. It should then prove possible for any subsequent searcher to decide how far he should study the same sources and how far he might consider the original bibliography relevant or complete in its field and period.

Dr. J. E. Holmstrom suggested that authors' abstracts should not only be printed under the titles of the papers themselves but should also be repeated among the advertisement pages of the same issue of the journal, whence they could be cut out and used for incorporation into a card index.

Mr. Geo. H. Davison said that he was in hearty agreement with the comments of the previous speakers who expressed the opinion that it was not reasonable to expect

a librarian to be an expert in every field of knowledge. He did not consider it to be part of a librarian's real function to provide critical reviews; that was more for the specialist. On the other hand, the interpretations placed upon the description 'bibliography' seemed to differ widely. Mr. Davison said that in his own organization, when a member of a team of research workers called for a bibliography on a particular subject, it was not just a list of titles that would be wanted, but rather a summary bibliography giving the principal points covered by each reference. Obviously it was a great boon to the specialist if he could be saved the time of wading through every possible source of information personally and could simply select for study such publications which appeared from the summary to have a direct bearing upon the problem. In this connexion Mr. Davison wished to register a strong plea for the extension of a practice which is rapidly growing, viz. that authors should invariably publish a summary along with every article or book, not merely to save the time of the librarian, but also to ensure that the summary represents a reasonably comprehensive abstract or contents list.

Mr. G. Woledge said that Mr. Roberts had considered a cross-section of the total body of bibliographical publications, and by assessing critically a very wide selection of examples of the particular forms he had chosen he had gone a long way towards establishing technical standards for their production; it was a much needed piece of work, and had been done so well that it should have an important influence on future developments. Each individual bibliographical undertaking, however, was related not only from the point of view of form to other works of the same kind, but also from the point of view of content to works of other kinds dealing with the same subject-matter; and in most subjects there was need for a reconsideration of the exact scope of the different bibliographical works—both those which Mr. Roberts had discussed, and those, such as abstracts and book reviews, which he had excluded—so as to ensure that they dovetailed together to supply all the readers' needs without leaving gaps and without unnecessary duplication. Such a reconsideration would often also reveal ways in which a closer liaison between those responsible for the different undertakings would save labour and promote greater efficiency.

As an earlier speaker had emphasized, the more critical type of review must be written by a specialist in the subject; it could not be perfunctory or mechanical, but demanded a high level of judgment and knowledge as well as a considerable amount of labour. One thing that had held back the production of such works was that competent writers had felt, sometimes at least with some justification, that effort expended in this way had brought less recognition than the same effort expended on even comparatively trivial research. There were encouraging signs that this was less the case than formerly, and when there was full appreciation by those whose decisions make or mar careers that the critical analysis and exposition of the progress of some branch of knowledge demanded and could display as high intellectual powers as the actual conduct of research, and perhaps even rarer ones, many young scholars and scientists might be expected to devote to this important work the attention it needed.

Mr. A. H. Raine put forward the suggestion that the value of a bibliography could be much enhanced if it were compiled by two or perhaps three authors. This would overcome the tendency of a research worker to give an undue amount of attention to his own special subject. Obviously, however, the joint authors must not stand in the relation of, say, head of a department and his assistant.

Mr. L. V. Chilton said that he would like to make two brief points arising from Mr. Roberts's paper. The first concerned the treatment of book reviews in published bibliographies and abstract journals. New books were by no means uniformly treated; some abstract journals omitted them entirely, some included bibliographical data on the books alone, while others added references to authoritative book reviews. This last had been done consistently during the past eight years in *Photographic Abstracts* and had, he thought, found general favour. His second point was concerned with bibliographies, and especially with those produced (not necessarily for publication) for the research departments of industrial concerns and other non-public bodies. In his industrial experience these bibliographies needed to be supplemented by, at the least, brief notes on the scope, content, and method of treatment of the subject-matter: an

element of criticism was by no means out of place and was, indeed, to be welcomed. In such circumstances the preparation of 'straight' bibliographies, valuable as it was, represented merely what the President had described as the 'mechanics' of library work. To add the supplementary matter the librarian or information officer must have had specialist knowledge (broad and sound, if not deep), and he had therefore listened with the greatest appreciation to the President's plea that a broad knowledge of the relevant sciences should be regarded as an essential part of his training. He would go so far as to say that good special librarians and information officers were far more likely to be produced by training suitable technicians in library matters than by the reverse process; and moreover that a person so trained would be much the more likely to be able to take his place as an equal in the research team.

Miss E. K. Ransford spoke on behalf of those with no technical experience but with library qualifications. It was impossible for these to be expert in all subjects covered by a firm, and good bibliographies were particularly important.

Professor R. S. Hutton said that yet another type of bibliography was perhaps worthy of inclusion in this review. For the co-ordination of research in different fields, indexes on work in progress might be valuable. Several examples of these were mentioned including the *Register of research in social sciences in progress and in plan*, February 1945, National Institute of Economic and Social Research. Dr. R. Seligman dealt with this type of bibliography in his paper in the *Journal of the Institute of Metals*, 1945, vol. lxxi, pp. 157–64. Mr. Roberts had modestly not mentioned his valuable *Guide to technical literature* published by Grafton 1939. It was most desirable that new editions of this should be published.

Dr. B. J. A. Bard pointed out that at the recent Royal Society Empire Scientific Conference (June/July 1946) there had been published some notes of current scientific researches in the United Kingdom, which gave a fairly comprehensive picture of current research activities in the universities, university colleges, agricultural research establishments, and fisheries research organizations. The Research Secretariat of the Federation of British Industries possessed a record of research programmes of most of the private industrial research laboratories in the country.

Mr. P. Grodzinski said that since some unorthodox bibliographies had just been mentioned, he would like to refer to a special kind of bibliography which he had started to compile. The usual bibliographies were just lists of books and articles sometimes supplemented by abstracts. The 'bibliography' as he visualized it would be a collection of the actual articles, either reprints, pulls, or photographs, arranged in a manner directly useful for the research worker. The latter would no longer have to look in libraries for the literature referred to; for instance, to get the subject-matter of a bibliography of about one hundred items might take half a year or longer, and sometimes the original was not available at all just at the moment when the information was required. The collection as anticipated by Mr. Grodzinski and already released in some instances, for instance for the application of diamond as cutting tool, was directly available for research on the subject.

In his reply to the discussion Mr. Roberts agreed with Professor Hutton as to the desirability of records being made of research work which was in progress and the results of which had not been published. He added to Professor Hutton's example that of *Work in progress in the modern humanities*, published by the Modern Humanities Research Association, and the card index of scientific and technical research work in progress which had been established by Dr. A. Predeek in Germany before the war. Mr. Roberts agreed that it was often desirable to vary the contributors writing on a subject in a survey volume, especially if the topic were a controversial one, and quoted a statement made at a conference held by the American Economic Association that contributors to their proposed survey volumes should not be allowed to write more than once every three years.

Mr. Roberts also agreed that the writing of critical surveys was properly the task of subject specialists; even if the librarian was a trained scientist in the field in which he worked he could not hope to cover more than a tiny portion of the whole of his subject in a proper critical way.

He did not want to underestimate the value of the collection and arrangement of

all the literature on a subject in certain cases; such a procedure might in itself solve a problem. He quoted a passage from the July 1946 issue of *College and research libraries* in which the Librarian of Congress described how the compilation of a bibliography on the subject of milk-weed floss by the Department of Agriculture Library had led three different bodies interested in the utilization of this material to decide that it would be best used as a substitute for kapok in life-preservers.

Mr. Roberts concluded by saying that although there were occasions when a scientist needed to have everything written on a subject before him so that he could thoroughly work over the field himself, and others when persons who had mastered what had already been done just wanted to see new publications on their subject, there were also many occasions when the availability of a good critical survey of some theme would enable a man to refer immediately to a work which would give him the information he required without his having to consult other less worthy writings on the subject first. Librarians ought to try to persuade the men who had mastered what had been written on their subject to write more critical surveys.

What an Industrialist expects of an Information Service

By SIR ARTHUR FLEMING, C.B.E., D.Eng., M.Sc., F.C.G.I., and MISS B. M. DENT, M.Sc.

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THE authors believe that the best contribution they can make to the Conference under this heading is to describe the information service which was commenced by one of them nearly thirty years ago in the industrial organization with which they are associated. This service developed from small beginnings to quite a comprehensive service and a record of this development will probably show what at any rate are the principal benefits that an industrial organization can expect to derive from such a service.

About thirty years ago it was decided to bring together some scattered research activities into a unified Research Department, and the manager responsible decided that a permanent feature of the laboratory resources should be what came to be termed an 'Intelligence Section'. Its first purpose was to ensure that any research work undertaken in the laboratories should be preceded by a search for all work that had already been done elsewhere on that particular subject and, as the research work of the laboratories covered such interests as metallurgy, electro-technics, physical chemistry, chemistry, physics, mechanics, engineering, a very wide range of materials for engineering construction, a wide variety of technical processes, and such interests as those relating to the physiological and psychological factors relating to the most efficient use of human effort and problems relating to market research, it will be seen that the field to be covered by the Intelligence Section was a broad one. The work of developing this service was entrusted to Mr. J. G. Pearce, who did a great deal of pioneer work in the early days of Aslib and became Director of the British Cast Iron Research Association. He set up a small team of investigators to carry out the original purpose of the service, but before long requests came from various technical departments and engineers throughout the organization for information of interest to themselves. Sometimes this related to patents, sometimes to technical articles in a foreign language, sometimes a search for information that had been published many years earlier. Then the commercial department sent inquiries for information for market forecasts of various kinds concerning business in different parts of the world.

A library was set up, but it was determined that this should be kept as small and as up to date as possible and to-day it comprises some 2500 text-books and reference books, 8000 pamphlets, and files of about 300 periodicals. Liaison was arranged between the leading libraries in the country and particularly those specializing in certain fields and an exchange system established.

Translators were engaged who could deal with technical or

commercial subjects in several languages, statisticians were trained who could deal with statistics required for commercial purposes, and economists were available particularly for assistance on the commercial side.

To-day some 250 copies of technical and trade journals are handled weekly and abstracts are made and circulated to those requiring to be kept up to date on leading technical and commercial subjects. Such abstracts cover fields ranging from atomic physics to workshop methods. Translations of technical articles published in foreign languages are usually made in full for the engineer interested, but sometimes his needs are better met by a verbal description giving the gist of the article, followed by a full translation only if he requires a permanent record. Track is kept of all scientific and technical meetings of the societies and institutions of interest to the personnel of the company so that arrangements can be made for attending meetings, or alternatively for securing published records.

This brief historical sketch shows how the section has developed over a period of years in response to the needs and requests of the different departments of the organization. It follows that the structure and functions of the section as it exists to-day reflect the requirements of the personnel concerned and constitute and attempt to fulfil their expectations. Some of the main functions of the service will now be described in greater detail.

Library

It is clear that if requests for information of the kind mentioned above are to be met efficiently and promptly by the intelligence section staff, two conditions are necessary. Firstly, the material containing the information, viz. text-books and reference books, periodicals and reports, must be readily available, and, secondly, it must also be indexed and filed in such a way that specific items of information can be tracked down and produced with the minimum delay. It is a function of the library to collect the raw material of information in whatever form it may appear and from whatever source it may emanate and to try to ensure that a watch is regularly kept on notices of newly published books, government publications, and other sources in this country and abroad. The librarian who is short of space (and what librarian is not?) has to steer between the Scylla of overloading the library with material which is but seldom referred to and the Charybdis of failing to obtain all that is essential to efficiency. The task requires foresight and judgement based on knowledge and experience of the firm's interests.

Technical, scientific, and commercial journals contain the latest and most precise information on many subjects and so form a very important part of the industrial library's stock. We have found that the regular circulation of journals to the engineers and research workers is regarded by them as an essential service, in spite of delays and hold-ups caused by other readers. In an organization of this size it does not seem

practicable to try to dispense with the circulation of the journals themselves by providing reading-rooms and circulating only abstracts and contents lists. A separate circulation list, depending on the subjects dealt with, is compiled for each journal, and in some cases as many as twelve or fifteen copies of the same journal are required. After circulation the journals are filed for reference, some are bound, and for lending purposes it has proved convenient to keep, for a time, files of the separate issues in filing-boxes. Owing to pressure on space the majority of journals are filed for a limited period only, the period being selected in each case with a view to the use made of the older files and the possibility of borrowing the particular journal from other libraries when required.

Another function which the library is expected to fulfil is that of a storehouse for certain unpublished information, in particular research department reports, translations, and the confidential reports issued by the Research Associations of which the company is a member.

In order to meet the need for books and back numbers of journals which are required for occasional reference only, and which are not to be found on the library shelves, it has been necessary to make extensive arrangements for borrowing from many other libraries, local, national, and specialized, and the number of volumes now borrowed annually amounts to about eight hundred. To facilitate local borrowing and exchange the librarian undertook the compilation of a *Union List of Technical, Scientific and Commercial Periodicals* taken by local firms who were members of Aslib. Nine firms co-operated and the list, which was issued in 1936, contained about eight hundred items.

Abstracting Service

The need for an abstracting service, designed and operated to suit their own requirements, appears to be felt by many research and industrial organizations. In our own case a weekly bulletin, the *Technical news bulletin*, containing about twenty abstracts, has been issued continuously over a period of twenty years to engineers, research workers, and other members of the staff. The main points of interest are: (1) the articles abstracted are selected with the organization's interests in mind; (2) the abstracts are issued promptly, e.g. we aim, in the case of British weekly journals, at issuing the abstract within a week of publication; (3) the abstracts are intended to indicate the scope of the article, in order to enable the reader to decide if it is worth his while to read it in full. No attempt is made to give a complete summary of results and conclusions and no criticisms or comparisons with other articles are given. (4) The abstracts are limited to such a length that each abstract, with its journal reference and subject classification number, can be typed in a space 6 in. × 4 in. on the stencil. The pages of the bulletin are cut into slips, each containing one abstract, and the slips filed in a standard size card index drawer in order of the classification number, thus providing a selected bibliography, with abstracts, on the subjects covered, which is kept up to date by weekly additions. It is open to any recipient of the

bulletin to do the same thing for himself, either with all the abstracts or with a certain number only, selected by himself with his own interests in mind.

Two years ago a request was received from a section of the works senior staff for a weekly bulletin, containing abstracts of current press literature likely to be of interest to factory executives. Such a bulletin, the *Industrial digest*, was issued weekly during 1945, each issue containing about fifty brief abstracts on factory processes and workshop practice, and is being continued.

Translations

The translators have been called upon to perform work of considerable variety, but one factor has remained constant throughout, viz. the highly technical character of their work. It is clearly very desirable that such translators should possess technical knowledge in addition to linguistic ability, as otherwise their work requires very careful editing. Translation into English from German, French, and Russian forms the major portion of the work done for the past twenty-five years, although from time to time work in other languages has been dealt with. A considerable amount of translation from English into Russian, French, and German has been accomplished. A regular part of the translators' work is the scrutiny of journals in foreign languages, the preparation of abstracts of selected articles from them for the *Technical news bulletin*, and the translation of the contents lists.

Most of the translations requested are of articles and papers appearing in the scientific and technical press, but other important material includes tenders and specifications for foreign contracts, standards, and sets of instructions. Foreign visitors and inspectors have sometimes been accommodated in the works for long periods and the translators have then been required to act as interpreters at conferences and to attend inspection visits at the premises of sub-contractors. One of our translators spent six months in Berlin in 1930, on loan to the organizers of the World Power Conference, and in 1935 translations into French and German were carried out for the Sixth International Congress for Scientific Management.

Inquiries

A large number of minor inquiries, many of them made by telephone, are answered verbally each day by the library assistants with the help of standard reference books and the library indexes. In addition, there is a steady stream of requests for complete or selected bibliographies and literature searches on special subjects. Most of these technical inquiries are now handled by the trained engineers or scientists in the section and copies of the resulting lists of references or other information are filed and indexed for future reference. An analysis of these major inquiries averaged over the past five years shows that 40 per cent. originated from the Research Department, 34 per cent. from the Engineering Departments, 10 per cent. from the Commercial Depart-

ments, 9 per cent. from the Manufacturing Departments, and 7 per cent. from customers and other sources. Typical examples of inquiries for bibliographies or other information taken from records for the years 1930–5 are:

Research Department

Vibration of steam turbine disks.
Fatigue of welds.
Degasification of metals.
Stimulation of plant growth by electric discharges, light, soil heating, &c.
Market prices of rare metals.

Engineering Departments

Quick response excitation for synchronous machines.
Regenerative braking.
Atmospheric conditions in various places.
Electrostatic precipitation of flue gases.
Regulations and recommendations concerning flame-proof apparatus.
Systems for dehydrating air.
Reasons for present (i.e. 1930) slump in electrical business and possible future trend.

Manufacturing Departments

Production planning.
Inspection and testing of welds.
Spray painting.
Thread milling and thread milling attachments.
Design of fabricated structures for electrical machinery.

Commercial Departments

The progress of the Grid scheme.
Import tariffs on electrical goods in various countries.
List of potential customers for induction furnaces.
World import market for electrical goods.
Report on the home meter market and the effect on it of housing construction.

Miscellaneous

Engineering and the economic crisis.
Recent developments in the electrical industry.
Electrification of ships' auxiliaries.
Biographies of various people.

Classification and Indexing

Author and subject indexes are maintained for the library books and pamphlets, and for many years copies of the printed indexes issued by the publishers to volumes of periodicals have been filed separately in manilla folders in order to facilitate literature searches. Frequent use is also made of many published indexes, such as *Science Abstracts* A and B (subject and author indexes), *Engineering Index*, and *Industrial Arts Index*. These last two publications, which are issued in the U.S.A., give references (and in the case of *Engineering Index* brief abstracts also) to articles in a large number of periodicals from different countries, arranged alphabetically by subject.

The method of indexing the abstracts in the *Technical news bulletin*, by filing the slips in order of the subject classification number, has already been described in the paragraph on abstracting. The subject classification used for the abstracts, books, and pamphlets is the Universal Decimal Classification, and for the last thirteen years this system has also been applied to Research Department and other reports, translations, bibliographies, and material received through our system of interchange with associated companies.

The subject index has been built up by recording the title of the report or other material, reference number, location, and subject classification number on a 5 in. × 3 in. index card and then filing these cards in order of their subject classification number. Different coloured cards are used for the different types of material indexed.

Certain sections of the U.D.C. have been translated into English at different times for the use of the Intelligence Section staff, and at the request of the British Standards Institution the Section has recently assisted in the editing and checking of a draft translation of the electrical and mechanical engineering sections.

Patents

A subscription is entered to those groups of Abridgements of British Patent Specifications which cover subjects of interest to the company. Copies of new specifications are selected weekly by our Patent Department in London and forwarded to the section where they are scrutinized and circulated to the individuals and departments likely to be interested. Certain patent searches are also undertaken. The handling of all patents and inventions originating from members of the Research Department is one of the duties of the Intelligence Section, as is also the scrutiny of such patents of our associated companies likely to be of interest to the department. A file of some 60,000 British patent specifications is maintained for reference.

Other Activities of the Section

Liaison work between the company and its associated companies both in this country and abroad is another responsibility of the section, and a very important one. Arrangements have been made for the interchange of technical and manufacturing information, such as drawings, reports, or design data, and provision is made for notification of available material to be made to senior engineering executives.

Co-operation is maintained with the company's Publicity Department in regard to publications, papers, and general departmental publicity work, and all arrangements for visitors to the department, including the organization of tours of inspection, are made by the section. Last year alone 135 parties of visitors were shown round the department and it will be appreciated that the organization of these visits makes heavy demands on the time of the section's staff.

One further function must not be omitted. In the course of its work the section acquires a wide knowledge of the interests and activities, not

only of the individual members of the Research Department staff, but also of other departments in the works. It frequently happens in an industrial organization of this size that one department is not fully aware of the work being done in another department, and the experience of years has shown that the Intelligence Section can be of considerable value in acting as a link between design, manufacturing, and commercial departments on the one hand and the Research Department with its staff of highly trained specialists on the other.

DISCUSSION

The Chair was taken by the President, SIR REGINALD STRADLING, who introduced Sir Arthur Fleming.

The discussion was opened by MR. E. N. SIMONS, who asked whether Sir Arthur could say what was the cost of an information service such as he had described.

MR. G. H. DAVISON referred to Sir Arthur's mention that the intelligence staff of his department made an intensive study of engineering patents as part of the service to the works generally. Mr. Davison asked whether Sir Arthur ever had questions put to him involving a search amongst war-time patent specifications? As far as he knew there was no index yet available to the public at the Patent Office and it was a most time-consuming job if one had to wade through every title in the weekly *Patents Journal* issued during the war, to say nothing of the fact that titles frequently failed to convey adequately a description of the subject-matter. In Mr. Davison's own industry (iron and steel) they were not greatly troubled as they had always made a practice of procuring a copy of every British patent specification relating to ferrous metallurgy. Précis were made of these, mimeographed copies being circulated to interested members of the staff, and further copies filed in the various subject files to which they related. Hence not too much difficulty was expected in this respect. On the other hand, however, they were frequently in a dilemma when questions were put to them relating to non-ferrous metallurgy and to engineering subjects. He would therefore be very interested to learn how the intelligence staff of Sir Arthur's department dealt with inquiries which involved a search through war-time patent specifications.

(Sir Arthur's replies are collected and printed at the end of the discussion.)

MR. F. GREENAWAY said that Sir Arthur had shown that he had a keen appreciation of the economics of his intelligence services which prompted the speaker to put a question on a point that had intrigued him for a long time. It was sometimes possible for a research worker who had been asked to develop a specific improvement in a company's product to get a fairly exact indication of the cash value of his work. For example, the elimination of a production step which had been closely costed could sometimes be assessed as producing a certain net economy. Had Sir Arthur any experience of any activity or individual task carried out by his intelligence section which had produced a known cash return? It would be very interesting for those members of Aslib who might have to debate the utility of information services to have direct evidence of their commercial value.

MR. G. A. SHIRES said that the purpose of a research bulletin was to advise staff of the existence of matter that they might wish to study at greater leisure. He would like to know if Sir Arthur and his senior staff expected to be informed upon the significance of such matter without necessarily reading the original literature, and also if they demanded to be kept advised of technical and scientific trends without asking? Mr. Shires felt that this was the real scope of intelligence work.

MR. J. S. P. PATON remarked that he had not found abstracting by senior research workers to be a feasible scheme.

(Discussion on Mr. Paton's remark was elaborated outside the Conference room and the following written contributions were sent in:

MR. S. C. GODDARD, of the Kodak laboratory, wrote that Mr. Paton's remark that abstracting by the senior staff was not found to work well in his organization should

not be taken to mean that such a system could not be made to work well elsewhere. In fact the internal abstracting service run by the Kodak organization was based entirely on the senior Research Laboratory staff. The editor of the *Abstract Bulletin* and other members of the Library and Information service scanned all periodicals for likely articles, which were then sent for abstracting to the specialists in the subjects concerned. The routing of journals for abstracting was keyed into the general library system of routing for ordinary information purposes, but the editor had an assistant who entered up details of all abstracts requested and who provided the necessary 'prodding' to see that they were received in reasonable time. The Director of Research had laid it down as a general principle that the abstracting was an essential part of the work of the Laboratory and that any member of the staff must provide abstracts required from him, or if necessary must see that someone more qualified dealt with those to which he did not feel capable of doing justice. The library was housed in the Research Department Building, so that contact between all members of the staff was obtained without difficulty. The first issue of the *Abstract Bulletin* was dated 9 March 1929, and abstracting then had been carried out exactly as it was now; the experience gained during the meantime had not given them any reason for supposing it would be necessary to alter their system, at least for some time to come.

Mr. G. A. Shires, of Dunlop Rubber Co. Ltd., wrote that he heartily agreed with Mr. Goddard that it was quite practicable for the staff of a technical or industrial organization to share the abstracting. He could call to mind at least three other industrial concerns that used this system, either wholly or partly. The operative clause in Mr. Goddard's remarks seemed to be: 'The Director of Research had laid it down as a general principle . . . .' Any system could be made to work once its merits were recognized. The outstanding merit of the system now under discussion was that the significant literature was studied and abstracted by experts or specialists, who could surely assess its value to their organization and interpret it to their colleagues better than a single information officer or small abstracting staff. At the same time the use of an 'expert' did not preclude the routine abstracting of general technical or 'newsy' items by regular full-time abstractors, and it was clearly unfair to load the specialists with such work.

Mr. Shires found it hard to accept Mr. Paton's explanation that abstracting by technical staff did not work because they could not spare the time; surely they found time to read and study scientific and technical literature anyway. It was this time that should be employed in abstracting, not extra time.)

Mr. B. Agard Evans said that the statistics given in the paper and elicited by questions suggested a valuable line of research for Aslib to undertake. The excellent time-analysis given earlier in the year in the *R.I.B.A. Journal* for the library of the Royal Institute of British Architects was a case in point. It would be most useful to know about expenditures on intelligence services in relation to the expenditures of each organization as a whole and the numbers of people served. Figures on the percentages of inquiries from the different sides, such as the figure of 40 per cent. from the research side given in the paper; proportion of time given to translation, indexing, abstracting; salary ranges giving the relative proportion of high-grade and low-grade staff; all these would be invaluable in building up new centres and, as Mr. Greenaway had said, in approaching establishment officers and directors. Aslib was now big enough for such figures to be authoritative. The survey would have to be carefully conducted by a statistician working with a special librarian so as to get a true picture; a questionnaire that gave just the figures would be meaningless without the most careful screening and analysis.

Mr. W. O. Lipton remarked that keeping books down to a limited number might be easy, but could Sir Arthur explain how his firm kept down the number of periodicals and pamphlets?

Mr. J. E. Wright stated that because technical special libraries were set up to meet the particular requirements of their parent organizations they varied considerably in size, organization, and methods used. For this reason it was not always easy to find a library comparable in function and size with the one most familiar to any one member of the audience. Nevertheless a description of a technical library invariably provided

an interesting paper, and the account given by the authors was of particular interest to the speaker because they had described an information service designed to meet similar requirements both as regards the number of users and the branch of applied science covered as that to which he was attached. Whilst the organization described by the authors was formed thirty years ago, that which he represented had just attained its majority and he gathered from the paper that the two libraries compared closely as regards size.

It was apparent that in many ways each information service had found practically the same way of solving a problem. For example, the idea of a translator giving verbally to an engineer the gist of an article before undertaking a complete translation had been found in his department to save unnecessary work. Before the last war his own library circular containing abstracts and references designed to meet the points described by the author was also issued weekly. Although during and since the war the frequency had been reduced to monthly intervals, even now the information given was still in advance of the abstract journals.

Mr. Wright said that he would be interested to know who made the abstracts for the Bulletin. Were they prepared by the staff of the information section or by the laboratory staff? If prepared by the information section, what guarantee was there that they were read by those for whom they were prepared and not just passed on, or filed, without even so much as a cursory glance? If, on the other hand, the engineer, physicist, or chemist had to prepare the abstracts of articles of particular concern to him, he must at least glance at the articles. In his opinion the circulation of library copies of periodicals should be avoided. All librarians seemed to dislike circulating periodicals. They admitted that delays in circulation occurred, that the whereabouts of a particular issue was never known precisely, and that copies became lost to the library or mislaid. If periodicals were circulated they were not available for loan for perhaps two months after they had been received. A really satisfactory solution, bearing in mind that circulation was useful, was not easily found. One way, a compromise perhaps, was to obtain a separate set of periodicals for circulation and to arrange for the library periodicals to be displayed in the reading-room for fourteen days or so before being made available for loan.

Mr. Wright said that he had listened with some misgiving to the idea of disposing of certain journals not often required. His own experience of this practice was that, although the decision to dispose of earlier issues of certain journals might be based on a study of the loan records, as soon as the issues were disposed of, requests for them were forthcoming. During the war years, when the Science Library was partly evacuated and other libraries had their own troubles, his own long runs of journals proved very useful. Moreover, rapid access to material was a great advantage and much to be preferred to waiting whilst a periodical was borrowed from another library. So, while agreeing that space was an important consideration, he thought a library such as the authors had described should retain as much material as possible and certainly aim at completeness in the literature relating to the specialized interests of the parent firm.

REPLY TO DISCUSSION

Sir Arthur Fleming, in reply, said that concerning the preparation of abstracts by the senior or specialist staff of a technical organization in contradistinction to the maintenance of a technical abstracting staff, both systems had been operated in his organization and his experience had been that the advantages of the latter far outweighed those of the former. Any consideration of the relative merits of the two systems must take into account the size of the organization, the scale of journal circulation, the diversity of subjects of primary interest, not to mention the geographical accessibility of the personnel involved, and, perhaps most important of all, the extent to which it is considered desirable to avoid delay in the issue of abstracts. In an industrial research organization there are normally few experts who are concerned solely with fundamental long-term investigations and are not subject to the urgency of day-to-day problems arising through close association with industrial production. Urgent demands in these directions must naturally take precedence and serious delays

in abstracting duties would unavoidably occur. The prompt and regular circulation of several hundred technical periodicals did not lend itself to continual interference with routing in accordance with the diversity of subjects which might be dealt with in the abstracts. Also it frequently occurred that the expert was inclined to produce a commentary or criticism, as distinct from a broad summary of greater value for bibliographical purposes, and to misjudge the needs of colleagues interested mainly in less fundamental aspects. Again, any system which avoided the necessity for 'prodding' had obvious advantages, and time thus saved could be more usefully employed. It was only by trial of various methods that the technique best adapted to the particular organization could be evolved.

In answer to Mr. Davison, Sir Arthur said that he knew of no other way of tracking down at the present time patent specifications issued during war years on a given subject, other than the very tedious method of looking through the subject index section of each issue of the weekly *Patents Journal*.

On the subject of periodicals Sir Arthur said that it had not been found possible or economic to dispense with their circulation, but for some time past an extra copy, in addition to the number required for circulation, of each of about thirty of the more important journals had been obtained. This copy was kept in the Library and was available for consultation until it was replaced by the subsequent issue, after which time it was used for lending in answer to specific requests. The exact whereabouts of at least one copy of each of these thirty periodicals was therefore always known. He agreed with Mr. Wright that as much relevant material as space allowed should be retained and this had always been done in his organization. Nevertheless each year it became necessary to withdraw certain of the less-used volumes in order to make room for current issues and it had been found that this could usually be done without causing serious inconvenience to readers. The decision on exactly what to withdraw every year had been simplified by limiting the periods for which the majority of the files were retained. A number of the more important journals, e.g. the *Journal of the Institution of Electrical Engineers*, were not limited in this way and the others had all been considered individually and very carefully, the main deciding factors being (1) the use made of back numbers by readers, a clue to which is given by the loan records, and (2) the availability of the journal locally for borrowing. The period varied from a few months to ten years and might be altered from time to time in the light of further experience, but this systematic method of withdrawing back numbers reduced the space problem largely, though not entirely, to a routine matter. In withdrawing books and pamphlets each item must be dealt with separately on its merits.

In reply to Mr. Simons and Mr. Greenaway, Sir Arthur said that the cost last year of the organization he had described was about £8,000, but this figure was low owing to the war and consequent staff shortages. A better figure would be £10,000 and a reasonable estimate of the annual cost for an organization with 3,000 employees was of the order of £2,000 to £3,000, depending on the proportion of technical personnel to the total number of employees. There could be little likelihood of a cash 'return' for intelligence work and it rarely occurred that the diverse activities of an Intelligence Section could be the subject of precise evaluation of saving in expenditure. That appreciable saving could be effected was established by the many expressions of appreciation received from engineering, research and commercial departments alike, in regard to work done on their behalf which had proved extremely useful.

In reply to Mr. Shires, Sir Arthur pointed out that assistance was rendered in the majority of cases as the result of a specific request and might take the form of a special report or memorandum being prepared. Apart from this, however, the attention of directors and senior staff was drawn to matters of outstanding significance or importance, and more detailed treatment of the subject was given if required.

The Communication of Specialist Information to Business Executives

By R. S. HUTTON

The Practical and the scholastic attitude

THE problem of bridging the gap between the academic world and the so-called practical man dates back a long time. Many instances could be quoted, but I will confine myself to two old examples from my own field of metallurgy. Richard Watson, at that time Professor of Chemistry at Cambridge, wrote in his *Chemical Essays* in 1781:

'It is not enough to employ operators in this business, a man must blacken his own hands with charcoal, he must sweat over the furnace, and inhale many a noxious vapour before he can become a chemist. On the other hand, the practical men themselves are generally illiterate, timid, and bigoted to particular modes of carrying on their respective operations. Being unacquainted with the learned, or modern languages, they seldom know anything of new discoveries, or of the methods of working practised in other countries . . . they are unwilling to incur the least expense in making trials, which are uncertain with respect to profit . . . they acquire a certain *opiniâtreté*, which effectually hinders them from making improvements, by departing from the ancient traditionary precepts of their art.'

Then again, Lyon Playfair in his Introductory Address at the Royal School of Mines in 1851 said:

'If England is to keep pace with other countries as a manufacturing nation, it must be by her sons of industry becoming humble disciples of science. At present her reliance in the "practical" or "common" sense of her population is the sunken rock directly in the course both of her agriculture and manufactures. . . . Depend upon it, an empirical knowledge of practice is not the way now to succeed in the struggle of individuals, or in the struggle of nations. Intellect is on the stretch to get forward, and that nation which holds not by it will soon be left behind. For a long time, practice, standing still in the pride of empiricism, and in the ungrateful forgetfulness of what science has done in its development, reared upon its portal the old and vulgar adage, "an ounce of practice is worth a ton of theory". This wretched inscription acted like a Gorgon's head, and turned to stone the aspirations of science. Believe it not! for a grain of theory, if that be an expression for science, will, when planted, like the mustard seed of Scripture, grow and wax into the greatest of trees.'

However old the problem may be, the importance of its solution still faces us at the present time. A practical man has been defined as 'a man who practises the errors of his forefathers', whereas the modern scientist is sometimes spoken of as 'a man who knows more and more about less and less'. Let us, therefore, try to examine this question and see whether, if we look at it from different points of view, we can find some causes of our difficulties, and if these can be clearly established, they may point the way to remedial methods of procedure.

Why is it that these two types of individual have such a different outlook?

In the first place, they differ essentially in their education, experience,

and, above all, in the nature of the tasks with which they are concerned.

Some of the most successful business administrators are men who have purposely acquired a really broad educational foundation, and who, in the opinion of some, may have rather wasted their opportunities at the university by devoting an exaggerated amount of their time to social activities or sports.

Another type, the so-called 'self-made' man, has started business life at a youthful age straight from school, has used his innate grit, intelligence, and energy to advantage, and has acquired skill in tackling day-to-day problems of industry in intimate contact with men and materials in the raw. Such a man is naturally proud of the position he has gained and is apt to believe that it is only along the path he himself has pursued that others can achieve success. Sometimes he even tries to appear more stupid than he is. I remember, for instance, a schoolmaster, who had transferred to a research post in industry in a small provincial town, telling me how shocked he was to find that none of the local business leaders had had a secondary school education, and that one of them during a discussion remarked, 'The dafter I looks, the better I does!'

Occasionally one finds, in large concerns, directors who combine high scientific qualifications with extensive experience in the administrative field. The majority of works in this country are, however, small concerns, and less than $\frac{1}{2}$ per cent. of them employ over 1000 workers. Consequently we get great diversity in the type of individual responsible for works management, and we must not confine our attention to the more advanced or large enterprises.

The scientist, on the other hand, as a rule, has to plan his education on narrower and narrower lines. The intensity of competition and the progress of science call for ever-increasing concentration on his one chosen subject. Huxley in his time said that 'a man should know something of everything and everything of something'. The old broad general science curriculum at the universities has largely given place to specialized 'Honours Schools', and even graduation from these does not release the brighter individuals from the restrictive net of their speciality, for they are encouraged to devote another three or four years to work at research in a still narrower field by the lure of the Ph.D. degree. The recent report of the Cambridge Committee on 'University Education and Business'[1] draws attention to some of the other dangers of such curricula, and shows how the social and residential life of a university may provide compensation.

The Functions of the business man and the scientist

Do not let us, however, make the error of supposing that these two classes, the business man and the scientist, should be identical. The individuality and personality of each must essentially be different and in some respects even conflicting. This is more clear if we briefly consider the tasks which each has to perform.

[1] For these references see end of paper.

The business executive has necessarily to be 'a jack of all trades', even sometimes at the expense of being 'a master of none'. His task is to correlate and assemble the many diverse factors of a business problem. He must have the faculty of rapidly switching his attention from one subject to another, one of the most fatiguing mental operations when actively pursued during the full working day. Presumably on account of his position his salary will be relatively high and therefore the per hour cost of his time important for him and others to realize. One American writer has pointed out that high business executives do not readily concentrate on reading books and other literature, and has calculated that the time-cost of reading a single book would amount to £15 for a £4000-a-year administrator, so that this may be one of the causes for his aversion to specialist literature!

Another important point has been brought out by A. N. Whitehead[2]. He reminds us that the ideal industrial executive is concerned with assuring that his works are so tuned-up and stereotyped that they can function with maximum efficiency. From this point of view his first reaction is to oppose all proposals for introducing novelties or improvements since these would upset the smooth routine running of his plant. Even if, as is not always the case, he is imaginative enough to appreciate that such stability cannot be eternal, he will insist that all modifications and new inventions shall be worked out independently of his operating plant and only be superposed upon it or be substituted for it when they are fully perfected and tried out. The extreme example of this took place at the Ford Motor Car Works at Detroit some years before the war when, prior to the introduction of a new model, the whole works was closed down for quite a long period, and only after re-equipment was started up again.

The task of the scientist is, as a rule, quite a different one. He constantly searches for novelty, and by contributing new knowledge opens up the possibility of its practical application. Generally, he is not in a position to carry out the development and industrial application of his new discoveries, and may not appreciate that, however expensive in mental effort, time, and money the attainment of his own discovery has been, the next step as a rule calls for vastly greater time, money, and enthusiasm, and mental effort too, although this may be of a different type. Sir Clifford Paterson, in his paper *Conversion of the Results of Research into Production* at the March 1946 F.B.I. Conference on industry and research, provided an excellent review of this side of the question[3].

Improved co-operation between these two groups calls for a clearer understanding by each of the other's needs and functions. In this paper more attention is given to the tasks of the information officer, but it is important that those for whom his services are provided should develop greater receptivity.

No information service can function efficiently if left in isolation. It is of major importance that opportunity should be provided for regular conferences at which the specialist officers can meet the administrative officers. Both sides can thus be kept aware of the varying

problems of the whole enterprise; in dealing with which the co-operation of the information section can often play an unexpectedly helpful part.

The more advanced business leaders already recognize the value of allowing their staffs to attend outside conferences and to seize other opportunities of meeting people engaged in similar occupations. Intercourse of this character frequently introduces new ideas helpful to the enterprise, and it is hoped that it will be encouraged more widely by all executives.

I have referred to these basic considerations because I am convinced that, frequently, neglect to appreciate fully their implications is one of the major hindrances to smooth intercommunication between the technical staff, including scientists, information officers, and librarians, and the non-technical industrialists or business executives.

A Problem of interpretation

There are, no doubt, many technical officers who do realize the psychological factors concerned and the importance of preparatory consideration of the best forms of communication in each individual case, but frequently far too little attention is paid to the adaptation and editing of such communications.

Some of the Research Associations have grappled with this problem, and I remember that as long ago as 1927 the British Non-Ferrous Metals Research Association held a three-day Conference at Oriel College, Oxford, at which all its staff was assembled to meet representative industrialists and many outside experts. The major theme of this conference was the problem with which we are concerned to-day: how to find better methods for communicating the results of scientific and industrial research to business men. Some frank criticisms were exchanged at this conference, and it was brought home to many of us that the industrialist yearned for a simpler, shorter, and clearer exposition of the major results achieved, than the 'scientific jargon' so prevalent and perhaps excusable in the papers and reports intended primarily for scientific colleagues of a closely similar type to the authors.

Attention was drawn to the importance of realizing that almost every story or piece of information can and should be written up in numerous ways according to the clientele for which it is intended, and yet how seldom is this ever done!

The late Lord Rutherford is reputed forcefully to have brought out this point when presiding at a session of the Royal Society at which a young biologist had communicated a paper in highly specialized phraseology. Rutherford called him back, pointed out that he had not been able to understand what he was talking about, and asked him to explain in five minutes, in clear words, the essential points of what he had done, why he did it, and what results he had achieved. The young man rose to the occasion and then gave a clear account of his work.

No doubt few, if any, people find this task of clear and brief exposition easy. Even the great T. H. Huxley, who became so famous as a popular

lecturer on science, is said to have started very poorly, and only after several years' study of the best English literature, to have gained his full confidence and remarkable power of clear exposition.

There are, of course, many good publications intended to teach the young scientists how better to express themselves and how to plan reports[4]. However useful these may be, the prime necessity, I feel sure, is to concentrate one's attention on the actual target to which one's written or spoken words are directed. Here we have much to learn from the higher ranks of journalism, for one is often surprised how well a good 'leader writer' can explain in simple language even complicated subjects, and at last we seem to be on the threshold of possessing a team of scientific journalists.

Some foreign countries seem to be ahead of us in popular scientific literature. In France the technique is called 'vulgarization', in America sometimes 'slossonize' after Edwin Slosson, author of *Creative Chemistry*. The remarkable work of Watson Davis for Science Service, Washington, D.C. has provided the U.S. Press with reviews of scientific discoveries.

The problem of wording reports in many different forms suitable for the needs of specific individuals is common to the scientific worker, information officer, librarian, and many others.

The essential task is to 'cream off' the vital and stimulating information and to present a message in a clear and persuasive form, peptonized to suit even the most reluctant clientele, all of which obviously calls for high skill and imaginative treatment.

The following quotations from a report of the U.S.A. Special Libraries Association discussion of similar problems in June 1937 are perhaps worth noting.

> 'His [the business man's] problems are immediate and pressing, his decisions must be made quickly, he lives in the belief that he cannot stop to read volumes or even pages of printed matter.'
>
> 'If someone can give him the "nett" of some other person's judgment or experience, he may be able to make use of it. . . . He does not want a clearing house, he wants one specific thought and he wants it boiled to the bone and available instantly.'
>
> 'Your success in calling particular subjects to an executive's attention will be determined by your skill in presentation. . . . The first problem you have to solve is to know what questions are confronting your executive at any particular time. This is not always easy to know but it is your business to find out.'

The Research Associations have in many cases established special sections for development and liaison work with their individual members; these are interlinked with the information section on the one hand and the research section on the other, and employ officers specially skilled in the presentation of information from outside sources and the results of research carried out internally. Success in such presentation demands most varied methods of approach. Not only is the power of clear exposition by the spoken or written word called into service, but in other cases the use of diagrams, models, exhibitions, and scientific films and other visual aids may more effectively tell the story

it is desired to convey. The skill and art of the journalist and advertising expert at their best have here again much to teach us.

Aldous Huxley has brought out some important points in reviewing his grandfather's literary skill in *T. H. Huxley as a Man of Letters*[5]. Just as examples the following sentences may be quoted:

> 'The function of language is twofold: to communicate emotion and to give information. . . . True, facts and theories *can* be communicated in terms that give the reader no aesthetic satisfaction. So can passions. But neither passions nor facts and theories can be communicated rapidly and persuasively in such terms. Whatever is expressed with art—whether it be a lover's despair or a metaphysical theory—pierces the mind and compels assent and acceptance.'

No doubt many Research Association officers could tell romantic stories of how, occasionally, they have achieved success in the most unexpected quarters. I myself could reminisce *ad nauseam* on this topic.

The Mission of the individual Information Officer

Now let us consider how all this affects every one of us engaged in one way or another in connexion with Aslibian activities.

Once a special library or information bureau has been established, whether this be because of a real appreciation of its potential service to the business, or merely because it was the fashion of the moment, it has the opportunity and the duty of proving its worth. Much depends, not only at the start but throughout its whole life, on the grit, ability, and imagination of the librarian or information officer.

Although the following remarks may seem trite to the majority of you who are more experienced, it seems to me that some of the suggestions a beginner should consider are the following: Make a special investigation to find out all you can about the clientele of your special library or information bureau. What information do they expect? How can you stimulate them to make a better use of information? Above all, learn to discriminate between the needs of the diverse range of the staff whom you are there to serve, and practise presenting a single individual topic in varied form to suit these individuals. Study the constitution and interests of your company. From whatever scraps of information that may be available to you in annual company reports and elsewhere, note the special predilections of your Chairman or Managing Director. Remember also that a story has its value not only because it is 'news' but because it is made promptly available—the time factor is ranked specially high by business executives even sometimes when it does not really matter!

In one Aslib report you will find that an authority specified the ideal information officer as possessing 'a lot of common sense, an inquiring mind, a high interest in other people, and a vast amount of tact'. No doubt at the start few of us possess all these qualifications, but the road is always open to make good in one's spare time individual deficiencies, and in considering these remember how much may often be gained by adding a reading knowledge of yet one more language than you already possess.

Only in the smaller establishments is one and the same individual faced with the task of performing unaided all the varied duties referred to above.

As the work grows functions are divided and each part is allocated to individuals who can specialize at the different duties delegated to them.

In a large, well-organized laboratory the research chemist or physicist is provided with technical assistants with varying grades of skill; and amongst these in the best regulated concerns, documentation officers to relieve the experimental research worker of the greater part of his necessary search of the literature. Similarly, the librarian will have his methodical and tidy-minded staff cataloguing, classifying, &c.; others with perhaps more imagination, alertness, and experience as information officers manning the Inquiry Bureau. As the functional division proceeds we nowadays have a new grade of staff arising who might be termed 'communicators', 'interpreters', or 'expositors', who should possess the requisite qualities of character, vision, and sagacity to build the bridges across which will flow ever greater service of knowledge to practice.

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DISCUSSION

The Chair was taken by the President, Sir Reginald Stradling, who introduced the speakers.

The discussion was opened by Mr. Eric Simons, who congratulated Professor Hutton on an interesting paper, which very concisely defined the problem before the Information Officer in industry. He mentioned the difficulty sometimes experienced in persuading technical men to realize that the jargon they used among themselves was not always understood, not only by the laymen, but by workers in other fields. He considered that any thought that could be expressed in words at all could be expressed in words comprehensible to the layman if sufficient time and patience were devoted to giving the necessary explanations of complex technical details. Naturally the technicians disliked intensely that their 'mysteries' should be made clear, but it was work

that had to be done for the sake of mankind, and he felt that it was well worth doing. The great popularity of the simplifications of steel metallurgy, which he had had the honour of publishing in collaboration with that eminent metallurgist, Dr. Edwin Gregory, proved the need of simplifications of this type.

Mr. H. H. Dumville said that he was grateful to Professor Hutton for his most interesting paper. He felt that he was a little too hard on the so-called 'self-made practical man'. The definition of a practical man being 'a man who practises the errors of his forefathers' was not, he suggested, wholly correct. He knew plenty of sound practical men who did not practise the errors of their forefathers.

Mr. Dumville said that if what was responsible for the gap between the academic world and the practical man could be ascertained, a solution to the difficulty might be found. He suggested that the responsibility was mutual. The practical man, owing to his lack of academic background, developed an inferiority complex. On the other hand, the academic man had a superiority complex, and Mr. Dumville was inclined to think that he was the more responsible for the unfortunate gap, for he was guilty of 'looking down his nose' at the practical man. It was probable that most business men were up against this problem of the mingling of the academic with the non-academic types. In Mr. Dumville's opinion the academic man must make the first overture to the practical man by making friendly and sympathetic contact easy. He was glad that Professor Hutton had stressed the importance of conferences, as they undoubtedly provided a common meeting-ground for these two classes of people.

Mr. F. Donker Duyvis said that it had been observed that mechanical and civil engineers made less use of retrospective literature than chemists or physicists. Electrical engineers stood between the two. It seemed that the psychology characteristic of men in certain professions affected also their attitude towards documentation. The mechanical and other engineers who did constructional work were of the visual type, and documentary information should be supplied to them chiefly in visual form. It seemed that the same should apply to business executives. The success of the late Dr. Neurath in visualizing statistical data showed that business men could be effectively approached by visual methods. The scientist who supplied information was often of the auditive type, and his information should be transformed in such a way that it could be adapted for the visualists. The whole problem deserved thorough psychological research.

Mr. F. Greenaway said that the paper had set him off on a train of thought ending in a generalization and a dip into the future. In his opinion there was no question that for effective government and administration in every department of life the makers of high policy must have access to accurate information. The economic and political history of the last half-century was full of examples of industrial, economic, and political policies which had failed because the administrators responsible were inadequately informed, even though the facts needed for right decisions were recorded. Professor Hutton had concerned himself with the business executive, but his implications could be extended nationally and internationally. Successive Aslib conferences had concerned themselves with the operations and tactics of information services. Mr. Greenaway pleaded for a grand strategy. Let that grand strategy be the extension of efficient information services to touch every part of the national life. At each conference, plans for a year or two ahead were considered. This strategic plan would occupy Aslib for a generation. At the end of that time one might be confident that those whose task it was to make major decisions would have a better chance of making the right judgement. Before the execution of this plan could be undertaken, it would be necessary to be accurately informed about their own activities, and in this direction Mr. Agard Evans had given a lead in another, earlier, discussion. It would be necessary to survey quantitatively the form and substance of their own information services, and he hoped that this would be done. It would be the first step in the greater project.

Dr. J. C. Withers said that Professor Hutton had referred to problems confronting the Research Associations. The British Cotton Industry Research Association had experienced two essential needs in the dissemination of research information to members. First, to impart the results of scientific experiment to the technologists who managed the practical work of the mills; for this purpose there was, in the first place,

a liaison staff of men trained in the technical schools and capable of understanding and interpreting scientific research. These men went out from the Shirley Institute on systematic visits to mills. Secondly, a *Bulletin* was issued that contained technical articles and notices of the scientific *Memoirs* published by the Institute. Each *Bulletin* was designed to provide something of interest to each section of members—spinners, weavers, and so forth. The 'Notices of forthcoming publications' attempted to place the researches in their practical setting, indicating why the work was undertaken and what light the results threw on technical processes. Thirdly, the Institute had in recent years arranged series of lectures in different towns to private audiences of mill managers and foremen. The audiences averaged about sixty, and the meetings were growing in popularity. The lectures were rehearsed at the Institute before the research staff, so that the presentation and illustrations might be criticized and improved, and questions that might be anticipated from practical men during the discussion might be ventilated. These practices did not, however, meet the problem that Professor Hutton appeared to have chiefly in mind, which was to convey research results to the *business* executives, the men who shaped a firm's policy and found the money for research. The British Cotton Industry Research Association was very much concerned with the need to develop new activities in this direction. The problem was not so much to impart technical details as to maintain interest in research and to stimulate a scientific attitude towards all questions that exercised the executive's mind. At the moment the staff was thinking in terms of a high-grade magazine, in which all the arts of illustration and presentation should be combined with skilful writing. Before launching such a periodical production, however, it was necessary to plan well ahead and to have at least the sixth issue in mind as well as the first.

Machines and Tables

Demonstration by L. J. COMRIE, M.A., Ph.D.

Director of the Scientific Computing Service, Ltd.

THE Chair was taken by Mr. T. E. Callander, F.L.A., Chief Librarian of the Coulsdon and Purley public libraries, who was himself one of the pioneers in the use of punched card systems for library records. He said that Dr. L. J. Comrie of the Scientific Computing Service needed little introduction since he was widely known as one of the chief authorities on calculating machines and mathematical tables.

Dr. L. J. Comrie then gave an amusing demonstration of the practical operation of calculating machines. He showed that addition on an electric keyboard machine was a simple process consisting merely of touching the required figures and pressing a motor bar. Subtraction was equally straightforward, requiring only a touch on the minus bar. Multiplication was performed by repeated addition, since adding four times (say) is equivalent to multiplying by four. Multiplication by 24 could be done by adding four times in the units position, then moving a carriage containing the receiving mechanism or product register to the 10's position, and adding twice. On an electric calculating machine (the Marchant was shown) the figures 2 and 4 of the multiplier would be touched in succession, and the machine would do the rest. On a hand machine (illustrated by the Brunsviga) the operator would save turns by treating a multiplier like 19 as 20 minus 1. Division is done by a process of repeated subtraction of the dividend. On a hand machine the remainder must be watched or a bell listened for; on an electric machine the process is entirely automatic, and a ten-figure quotient can be obtained in ten seconds.

Miss Schafer and Mr. Agard Evans spoke in the subsequent discussion, and in reply to a question Dr. Comrie said that any calculating machine could find square roots; also that they can be used to solve simultaneous equations, and that in his office 150 such equations with 150 unknowns had been solved, the time taken being about two months.

Dr. Comrie next outlined his efforts to obtain a typewriter with additional characters. Twenty years ago standard typewriters had forty-five keys with two characters each, and portable typewriters gave the same characters with thirty keys each containing three characters. It occurred to him that scientists and others needed forty-five keys each with three characters, or a total of 135 rather than ninety. He tried without success to interest Remington and Underwood in this idea. Later in the early 1930's he approached the Imperial Typewriter Company, who did not think the sales would justify the new tooling required. In 1936, during a visit to Chemnitz, he found that his idea was being developed by the Continental Typewriter Company. In 1938 he received the first such machine (exhibited) sent to England, which is still

in very active service to-day. It has all the Greek characters used in mathematics, square and curly brackets, square root, and integral signs, &c. Only a few of these machines reached England before the war, although quite a number with special keyboards were on order. Unfortunately the factory is now in the Russian zone of occupation. More recently, efforts to interest the Imperial Typewriter Company have been renewed, but to them the prospect is still a distant one. Dr. Comrie hopes that all those suffering from the limitation of the present typewriter will assist him by urging on the Imperial Typewriter Company the crying need for more immediate action.

Mr. Callander inquired from the Chair whether the Hammond typewriter with its two shifts was now in use. Dr. Comrie replied that he and many others that he knew had abandoned it, because of the poor quality of carbon copies, which usually show the impression of the hammer. He remarked, however, that it was very useful and satisfactory for library cards.

Dr. Comrie then passed to the difficulty of getting German mathematical tables. In 1942 the Americans began to issue (under licence) photographic copies of German tables needed in the war effort; these were available to everybody. The British Government, on the other hand, had been singularly lacking in enterprise. As far as he knew only one table had been copied—an eight-figure table by Peters published in May 1939. The War Office twice printed a limited number of copies for their own use, but refused to sell them to opticians, engineers, surveyors, and others who felt that they too would like to help win the war! Consequently that table was photographed in America for the third time, and we now pay dollars to import it into this country; the biggest consumers are the Government themselves!

Dr. Comrie then discussed the typography of tables. His main point was that figures are not read in groups, like letters in a word, but individually. Hence it is most important that there should be sufficient white round each figure to isolate it. To this end we use old style figures (with heads and tails) rather than the modern face or equal height figures. Space between lines is achieved by casting on a body one point (1/72 of an inch) higher than the face, and space between figures by increasing the 'set', as it is called in Monotype language. As an illustration of the contrast between poor and good printing he showed seven-figure tables by Shortrede and by Peters, containing the same numerical values.

Dr. Comrie mentioned that the well-known Chambers's seven-figure tables are to be replaced in 1948 by two new volumes of 600 pages each of six-figure tables, one containing logarithmic values and the other natural. Tables with argument in radians, as well as exponential and hyperbolic functions, will be included. He passed round some proofs to show the type chosen, and drew attention to the absence of rules, whose place is taken by white space.

Dr. Comrie pointed out how librarians, asked by their organizations to ascertain if tables of various mathematical functions existed, would be

saved many a headache by a newly published *Index of Mathematical Tables*—a unique work that gives a bibliography of all important tables and a discussion of them subject by subject. This work also gives an indication of the quality of various tables.

As an illustration of an inaccurate table Dr. Comrie passed round a volume by the Japanese Hayashi, in which 2000 serious errors were marked. In reply to a question he explained that the errors were mostly found by a numerical process of differencing (done on a National accounting machine), which is equivalent to plotting tabular values and examining the resultant curves for smoothness; bumps or kinks reveal errors.

Mr. S. H. Clarke remarked on the pleasing appearance of the specimen table of logarithms which Dr. Comrie passed round, and said how greatly it would facilitate reference. He wondered why the same principle of breaking the vertical lines by a space after every fifth number had not also been followed in the specimen table which related 'Feet' and 'Standards'. It was quite plain that the table was designed to be consulted as a series of vertical columns, but even so there was a certain correspondence between the numbers at horizontal levels, and the eye would be helped by a break at every fifth place.

Dr. Comrie agreed that some figures might be more easily read if arranged in groups of five, but said that practical difficulties occurred at the type-setting stage.

At the close of the talk members were greatly appreciative of the opportunity given for close inspection and handling of the demonstration machines, and the session closed with a hearty vote of thanks.

Some Aspects of the Demand for British Scientific and Technical Books for Europe

By MRS. J. LANCASTER-JONES

British Council

THAT there is an urgent demand from Europe for British scientific and technical books is probably well known to everyone. It might, however, be of interest to examine the ways in which this demand makes itself known and to note what steps have been taken to satisfy it.

As early as 1943 the Council of Allied Ministers of Education meeting in London recognized that, at the end of the war, the various countries which had during this period been deprived of access to literature published externally would require large quantities of books. The Books and Periodicals Commission, under the Chairmanship of Sir Ernest Barker, selected and purchased with the funds provided by the participating Governments some 44,000 of the best English books on all subjects, published during the war years, for allocation when conditions permitted of it, to the war-damaged libraries of Europe. Of this number about one-third were scientific and technical.

With the end of the war and the partial resumption of normal means of communication, demands for British books began to appear from a number of different sources. Learned societies and institutions in Europe were able to renew relations with their counterparts in this country, and requests were received here for the publications of the latter. An illustration of this activity is provided by the information very kindly supplied by the Department of Scientific and Industrial Research. The department is now in contact with six institutions in France, the most important of which is the Centre National de la Recherche Scientifique; the others are concerned with building construction, chemical industry, fuel economy, agriculture, and forestry products. In Holland the department maintains exchanges with six institutions, including the Technical University at Delft and others covering fields of building construction, water purification, and food treatment and preservation. In Belgium and in Denmark the department is in contact with four institutions in each country covering a wide range of subjects. Special mention may be made of the Academy of Technical Sciences in Copenhagen. It has been possible to maintain two contacts in Norway, one with the Fiskeridirektoren and the other with the Norwegian Canning Laboratory. All the aforesaid contacts have been re-established since the end of the war. Attempts were made to maintain contact with Sweden and the U.S.S.R. throughout the war years, though naturally there were many difficulties to be overcome, including that of postal transport. Now, however, the department maintains exchanges with six institutions in Sweden, covering a variety of subjects, and, through the Lenin State Library in Moscow, with seven scientific bodies in the U.S.S.R.

The Demand for British Scientific and Technical Books for Europe

In addition to the above-mentioned activities of the Department o Scientific and Industrial Research some idea of the demand for the output of literature from British scientific institutions can be seen from the requests received by research associations. For example, during 1945–6 one body, the British Non-Ferrous Metals Research Association, was asked by various organizations in Europe for no fewer than 123 copies of its publications. Eighteen of these requests came from Belgium, twenty-seven from France, thirty-eight from Sweden, and several other countries were also represented on the list.

Further evidence of the demand for British scientific and technical books comes from the publishing trade. One large firm receives on an average about 500 continental orders a month in response to which 2000 scientific and technical books are dispatched. Another firm is of the opinion that in Norway, for example, the demand for British books of this nature is some 300 to 500 per cent. above that made prior to the war, and that in Denmark at least 200 per cent. more British books are wanted than in 1939. Other firms report that there is a strong demand from France.

A considerable amount of information on the desire for British scientific and technical books comes to light in the course of the work of the British Council. The Council endeavours to equip the libraries it maintains in the capital and other cities of European countries with up-to-date works on science and technology. This results in requests for further copies. For example, in France, the Centre National de la Recherche Scientifique asked for the various Government Reports on Atomic Energy which had been displayed in the library of the Paris Office, and from Norway the Technical High School in Trondheim has asked for books on marine, electrical, and civil engineering and architecture. In Greece a collection of works on marine biology was asked for by the Piræus Marine Biological Station.

The Council's Book Review Scheme provides further evidence of the demand for British scientific and technical books. It might not be out of place to give some explanation of the manner in which this scheme operates. In Sweden, Spain, Portugal, Austria, Czechoslovakia, Poland, Yugoslavia, and Finland contact has been made by the Council's representatives with potential reviewers and the editors of suitable technical periodicals, and books sent from this country have been placed for review by these channels. In France, too, owing to the efforts of the Council's staff, the possibilities of obtaining books for review have been brought to the notice of the editors of a number of French periodicals. As, however, pressure of work in the Council's office in France has increased, it has become necessary for the scientific and technical books for review to be sent directly from London to the appropriate technical journals. On an average one book a month is sent to some fifty French periodicals. In Holland, Belgium, Denmark, and Switzerland the help of the representatives of the International Federation of Documentation was sought, and most willingly given. With their assistance contact was made with the scientific and technical

press, and books are now sent regularly to individual journals in Switzerland. In the other three countries the International Federation of Documentation's representative, in consultation with the Council's office, arranges for books sent from London to reach their appropriate destinations. It is interesting to note that more than one hundred scientific and technical journals have published reviews of British books sent out under this scheme, and that the number of reviews received, in the first half of 1946, is 360-odd.

The dispatch of a particular book to a journal often results in requests for further works on the same or kindred subjects for review. The editor of the French periodical *L'Année biologique* has put forward a number of requests for outstanding books on biology for notice in this journal, while the dispatch of the Ministry of Civil Aviation's Third Report of the Conference for Civil Aviation to the Bureau de l'Union Internationale des Télécommunications in Berne resulted in a request for the forthcoming *Descriptive notes of radio systems for use in civil aviation.* Orders are, of course, received for further copies of publications noticed in the technical press.

Further information may also be gathered from another aspect of the Council's work. Exhibitions of modern books are shown from time to time in various cities of Europe. These displays have been held in eleven countries in Europe and have aroused considerable interest. In Paris there was a 'British Books' stall in the Book Pavilion of the Foire de Paris. Books published in 1945–6 were exhibited in Spain at the Barcelona Fair, and it is interesting to note that from this display there resulted orders for no fewer than nineteen different publishers of scientific and technical books. The exhibition of books in Vienna in the early part of this year also resulted in a number of orders.

Society for Visiting Scientists

By MISS ESTHER SIMPSON

Society for Visiting Scientists

IN recent years Britain has had the honour of welcoming very many scientists from other countries. During the war many Allied scientists were working in the United Kingdom either directly under their own Governments in exile or for Government Departments of Great Britain. The need became more and more strongly felt for a centre which could be a meeting-place for these scientists, and where they could be welcomed and given not only material club facilities, but also information they required and which could not easily be procured elsewhere. In a number of other countries admirable centres for these purposes have been established for the use of visiting scientists and scholars: one of the best known of these is the Fondation Universitaire in Brussels, and there are others in Leningrad and Moscow.

Started on the initiative of the Science Department of the British Council, it is now just over two years since the Society for Visiting Scientists opened its doors, under the sponsorship of the British Council, with the advice and approval of representatives of the Royal Society, and the sympathetic interest of the Foreign Office. The principal aims of the Society are set down in the Constitution as follows:

1. To be a focus for all scientists visiting the United Kingdom, and to put them in touch with British scientists and with one another and make them feel at home in the shortest possible time.
2. To promote and encourage an active exchange of scientific thought and discussion between scientists of the United Kingdom and scientists from overseas.

The first President and Chairman of the Society was Professor F. G. Donnan, C.B.E., F.R.S.; he has recently resigned, and has been succeeded by the Astronomer Royal, Sir Harold Spencer Jones, F.R.S. The Treasurer of the Society is the Right Honourable Lord Rothschild, G.M., and the Secretary is Mr. J. G. Crowther. The Honorary Presidents are the President of the Royal Society, Sir Robert Robinson, and the Chairman of the British Council, Sir Ronald Adam, G.C.B., D.S.O., O.B.E. The Executive Committee is composed of distinguished scientific representatives of Belgium, Czechoslovakia, France, Greece, Holland, Norway, Poland, South Africa, and the United States of America, as well as British scientists. Membership of the Society is restricted to scientists working in those branches of science covered by the Sectional Committee of the Royal Society.

The House of the Society is at 5 Old Burlington Street, London, W. 1. A lounge and library provide a place for meeting, reading, or writing, and there are in addition a refectory, a bar, and some residential accommodation. An information service is provided which is open to all visiting scientists, so that any scientist arriving in this country can,

if he wishes, proceed at once to the House and be given such advice and information as is available, and details of how he may apply for membership. During this past summer the Society has been able to deal with very many questions concerning the numerous international scientific conferences which have taken place for the first time since the war, and to provide particulars for and about the delegates from other countries.

When the Society started there were a great number of French scientists working in this country, attached to the French Scientific Mission, and the first reception to be held in the House of the Society was in their honour. Since then, receptions have been given to groups of visiting scientists, including representatives of India, China, Belgium, and the United States of America. The Society has welcomed at receptions delegates to the Anglo-French Cosmic Ray Conference, the Faraday Society Oxidation Conference, the Conference of the Genetics Society, of the Biochemical Society, of UNESCO, of the International Council of Scientific Unions, the Conference on 'Science and the Welfare of Mankind', the Royal Society Empire Scientific Conference, and the Newton Tercentenary Celebrations. The Society has also had the privilege of entertaining members of the Parliamentary and Scientific Committee, the Council of the Royal Society and the members of the Royal Society Cultural Relations Committee, and International Relations Committee.

One of the most stimulating of the Society's activities has been the holding of discussion meetings on subjects of general interest to scientists; a Programme Committee has been responsible for their organization, and the speakers have been distinguished men of science from many countries. The first of these meetings was addressed by a number of British scientists who had attended the celebrations of the U.S.S.R. Academy of Sciences on its 220th anniversary; they spoke of developments in the U.S.S.R. in their own particular subject and of the general scientific background. The next meeting was one of immediate and universal interest: it dealt with the Social Implications of the Atomic Bomb, and the main speakers as well as many who took part in the discussion were scientists who had been engaged on the development of nuclear energy. A series of five meetings have been held on Science in the British Commonwealth, at which representatives of the Dominions and Colonies spoke of the problems in their various countries, problems common to many countries outside the British Empire. A meeting on Science in Czechoslovakia, which included a talk on Science in Yugoslavia from a distinguished Yugoslav scientist present in the audience, was most useful in bringing to light the problems with which scientists on the Continent are now faced and in stimulating suggestions for their solution. 'The Place of Science in UNESCO' was the topic of a meeting presided over by a member of the Society's Executive Committee, Dr. Julian Huxley, who had recently been appointed Executive Secretary of the UNESCO Preparatory Commission. Meetings have been held on 'The Use of Scientists' and on 'The Scientific Life',

when members and guests have had an opportunity of putting forward individual views and of realizing how much scientists have in common, whatever their country of origin. 'Science in the U.S.S.R.' formed the subject of the most recent discussion meeting; the speakers were eminent Soviet scientists who had come to this country to take part in the Newton Tercentenary Celebrations and in the Conference on X-Ray Analysis.

At the present time there are nearly 1000 members of the Society for Visiting Scientists, from 42 different countries, all of whom have visited the Society at some time during the past two years. The personal contact facilitated by the Society should prove most valuable for international scientific co-operation and for the advancement of knowledge and mutual understanding essential for a lasting peace.

DISCUSSION

The Chair for the Symposium on 'Aspects of documentation in Europe to-day' was taken by MR. A. E. CUMMINS. In the first half two papers were read by Mrs. J. Lancaster-Jones and Miss Esther Simpson; the other five papers on European centres of documentation being circulated before the meeting but not verbally presented. A short dicussion followed the first two papers before the break which preceded the second half of the Symposium.

Following Mrs. Lancaster-Jones's paper PROFESSOR R. S. HUTTON said that, whilst welcoming the splendid work being carried on by the British Council and other bodies, surely nearly every individual member of Aslib might play a useful part in international interchange of publications by adopting one or more overseas correspondents on the lines of the 'pen friends' of young people.

MR. THEODORE BESTERMAN pointed out that the British Council schemes for distributing British books and periodicals abroad had been of considerable value also to British organizations, since it assured to them some part of the foreign outlet from which they had been excluded by war conditions.

MISS E. K. RANSFORD reminded members that the Inter-Allied Book Centre had collected a vast number of back issues of scientific journals, &c., the allocation of which, to war-damaged libraries, was only just beginning.

Others taking part in the discussion were DR. F. STEGGERDA, MISS J. BARTON, and MRS. URE WOOD.

The Swiss Centre of Documentation

By W. JANICKI

Zug (Switzerland)

Introduction

THE Second World War has caused material and spiritual damages which it will take a very long time to remedy, if remedy be possible at all. Amongst the very few countries in Europe which have escaped partial or total destruction we find Switzerland. Thus the Swiss are in the lucky position of contributing their part to the reconstruction of our devastated continent, and they are determined to do so to the utmost of their abilities and facilities. In the intellectual field a very important role will be played, in this work of rehabilitation, by the existing Centres of Documentation or Information Bureaux, as well as by the special libraries closely connected with them. In order to enable our English friends to avail themselves of the opportunities offered by our facilities, the author will endeavour to give, in the following paragraphs, a short outline of the latter, basing his information on the *Swiss guide to documentation* (*Guide de la Documentation en Suisse*) which has just been published in a second edition (June 1946) and which can be obtained on application at the price of SFr. 4.50 from the Secretary of the Swiss Association for Documentation (Association suisse de la documentation), c/o Library of the École Polytechnique Fédérale Suisse, in Zürich.

The Organization of the Swiss Association for Documentation

This society was founded in 1939, just a few months before the outbreak of the war. Its chief object is to maintain and to promote the necessary relations among all those interested in documentation and to supply information, or to act as a clearing-house between the circles concerned. It keeps in touch with the International Federation for Documentation and fosters the connexions with foreign organizations of similar scope. This results in a better utilization of all resources which serve the intellectual worker, in particular the research worker and investigator.

At present the Swiss Association for Documentation numbers more than one hundred collective members (corporate bodies, such as commercial and industrial firms, administrations, scientific institutes, public libraries, &c.) and a few dozen individual members. The membership fee has been fixed at a minimum of SFr. 10 for individuals, and SFr. 50 for collective members. All information supplied by the Secretary's Office to members is free of charge. This office also takes care of the loan of books, periodicals, and other printed matter between the members and provides photo-copies and other reproductions for the members, for instance, microfilms. The position of secretary is at present held by the Director of the library of the École Polytechnique Fédérale Suisse in Zürich.

The second edition of the *Swiss guide to documentation* contains 227

centres of documentation, of whom 71 are members of the S.A.D. and of whom 51 use the Universal Decimal Classification for indexing and filing purposes. The following table shows how these centres are spread over the various branches of science and engineering:

Branch of Science	*Number of Centres of Documentation*	*Number of members of the S.A.D.*	*Number of Centres using U.D.C.*
0: *General*	19	5	4
02: Librarianship	14	..	..
07: Newspapers	5	..	..
1: *Philosophy*	1	..	..
2: *Theology*	6	..	..
3: *Social Sciences, Law, Administration*	53	10	13
4: *Philology*	2	..	..
5: *Natural Sciences*	3	..	1
6: *Applied Sciences*	116	56	..
61: Medicine	7	4	2
62: Engineering	45	25	17
63: Agriculture	12	2	6
64: Domestic economy	1	..	..
65: Scientific management, Organization, Commerce, Transport	15	6	3
66: Chemical industries	18	13	2
67/8: Various other industries	15	3	1
69: Building, Construction	3	..	1
7: *Pure and Applied Arts*	11	3	1
8: *Belletristics*	..	..	..
9: *Geography, History*	16	..	..
Total	227	74	51

Members of the S.A.D., or non-members, who are in possession of the *Guide* can apply either directly to each other for information, or—if for any reason they do not want to do so—they can address the secretary and ask for his mediation and intervention. The secretary transmits then, at the request of the members, their demands to the places concerned and retransmits the answers to the people interested in the matter. Up to the present this system has given excellent results, and has worked satisfactorily even in delicate cases which had to be handled with great tact and circumspection. The *conditio sine qua non* is, of course, an exact and intimate knowledge of the various members of the S.A.D. and of their various needs by the secretary.

Working Committees

Apart from the work done by the Secretary's Office of the S.A.D. in order to supply the necessary information to the collective and individual members, the Swiss Association for Documentation has set up six working committees whose activities can be briefly characterized as follows:

(*a*) *Bibliographical Committee and Committee for Classification.* Centralization of all bibliographical scientific work in Switzerland by such

measures as adoption of the U.D.C., standardization of book sizes, method of presentation, headings, and title abbreviations for periodicals. Co-operation with other scientific bodies for the editing and publication of specialized bibliographies (for instance, bibliography of medical publications, of official and governmental publications, &c.). Study of various classification systems, development of the U.D.C.

(*b*) *Committee for co-operation of works and administration libraries among themselves and with public libraries.* An inquiry is being held with the object of gathering together all existing bibliographies, reference lists, &c., not yet published.

(*c*) *Committee for training of professional works and administration librarians.* Training courses have already been carried out in Berne, and new courses are being prepared for Zurich. It is intended to organize such courses in all parts of Switzerland if they meet with approval in the big towns.

(*d*) *Committee for terminology of documentation.* Standardization of all definitions and terms used in documentation, and their translation into French and Italian. In 1942 a short vocabulary of important terms was published in German, French, and Italian (see *Swiss guide to documentation,* 2nd ed., pp. 15–20).

(*e*) *Committee for standardization.* The following Standards have already been produced: *Titles of periodicals* (No. SNV 90100), *List of abbreviations commonly used in practice* (No. SNV 90101), *Bibliographical 'Manchette' for periodicals* (No. SNV 90102). These three Standards can be obtained from the Swiss Association for Standardization, Zürich 2, General-Wille Str. 4, at the price of approx. 2*s.* per copy. The programme includes the working out of general rules for use with bibliographical references, production of standard book-cards, analytical labels, rules for the photographic reproduction of documents, microfilms, transcription of Cyrillic letters, &c.

(*f*) *Committee for the study of technical resources for intellectual work.* Facilitation of the use of all technical resources. Methods of automatic reproduction, including microfilms, labour-saving devices, such as card-punching, perforating, clipping, and calculating machines. Publication of a current bibliography on documentary reproduction.

Swiss Union Catalogue

This institution represents the second great source of information in Switzerland. It is attached to the Swiss National Library in Berne and has accumulated in the eighteen years of its existence (1928–46) over 1,700,000 bibliographical cards covering more than 6 million volumes, scattered all over the country in the big and small public and private libraries. Of course, it must be kept in mind that the Swiss Union Catalogue only indexes and files cards which refer to publications printed in book form, *not* articles in periodicals, as is the case in

almost all the centres of documentation mentioned above. Nevertheless, it renders the greatest services to the country, as can be seen from the following statistical figures:

Year	*Total*	*Number of inquiries*		*Positive percentage*
		Answers negative	*Answers positive*	
1939	2746	1389	1357	49·4
1940	2840	1379	1461	51·4
1941	3401	1566	1835	54·0
1942	4316	1835	2448	56·7
1943	7126	3150	3976	55·8
1944	10,397	4129	6268	60·3
1945	13,380	5285	8095	60·5

More than 95 per cent. of all inquiries addressed in 1945 to the Swiss Union Catalogue referred to the place of conservation of a publication, and only the tiny remaining percentage concerned some bibliographical information or a collation. The inquiries indicating only the subject in which the inquirer was interested, without a precise title of a publication, have as a rule also been accepted and generally cleared up with the assistance of special libraries when the resources and the works of reference of the Swiss National Library proved insufficient. Thus more than 60 per cent. of all inquiries could successfully be dealt with in the last two years.

Information Service

The Information Service of the Swiss National Library has also been placed at the disposal of foreign countries since 1930. For this reason its address has been incorporated into the *Guide des services nationaux de renseignement du prêt et des échanges internationaux*, published by the International Institute for Intellectual Co-operation in Paris (1930). Many foreigners had availed themselves of the good offices of the Swiss Information Service up to the outbreak of the Second World War in September 1939, and ever since demands for bibliographical references, transfers or loans of books, periodicals, or manuscripts of Swiss or foreign origin have been transmitted, as well as requests for photographs, photocopies, and microfilms.

Thus the Swiss Union Catalogue and the Information Service attached to it have considerably developed in spite of the forced isolation during the years of war; they endeavour to assist science and engineering in the pacific competitive struggle of the nations, for the welfare of their own country, and for that of all other peoples.[1]

[1] For more details refer to the articles of H. Grosser, D.Ph., Chief, Swiss Union Catalogue and Information Service, Swiss National Library, Berne, published in the *Swiss guide to documentation*, 2nd ed., pp. 11–15, and in *La Bibliothèque Nationale Suisse, 1895–1945, un demi-siècle d'activité*, Berne, 1945, pp. 157–63 and 168–75. For further information concerning the Swiss Association for Documentation, refer to the *F.I.D. Communicationes*, the official publication organ of the International Federation for Documentation, The Hague, Willem Witsenplein, 6 (Netherlands), 1939–46, and to the various Annual Reports of the Secretary to the General Meetings, 1940–6.

The Technical Information Service in Sweden: an Introduction

By DR. ERIK HEMLIN

Director of the Library of Chalmers University of Technology, Gothenburg, Sweden

THE demand for a technical information service in Sweden on modern and rational lines was advanced in precise form after the First World War. One of the first initiatives of the Ingeniörsvetenskapsakademien (The Academy of Technology), founded in 1919, was directed towards this aim. In the letter of the Academy to the Government the whole issue of a modern information service is presented, and the exposition of the facts there given is still of current interest. Owing to various circumstances the whole question was then dropped.

The twenty years intervening between the two world wars have in a striking way brought the demand for a solution of the problem to the fore. The new and important role now played by technical research in Swedish industry has made the need of a modern efficient information service more and more sharply felt. The technical research in its turn is intimately bound up with the increasing differentiation and higher finish of the various industrial products of the country, so characteristic of the development during the last few decades in Sweden. A modern technical information service is also demanded by the two Universities of Technology in the country, in Stockholm and Gothenburg. The instruction given at those two institutions has developed during the same period from a comparatively elementary communication of knowledge to increasingly specialized scientific study and the training of research workers in the technical scientific field. Also, from a third quarter the demand has been raised, viz. the research institutions now so rapidly growing up in close connexion with the Universities of Technology and organized in co-operation between the various branch industries and the Swedish Government.

In 1940 two committees were appointed by the Government, one to inquire into the higher technical education and one to make plans for the technical research in the country. In collaboration those two committees have drawn up a proposition for the organization of the technical information service. This report was published in April 1944.[1] The task of investigation was entrusted to one of the pioneers of Swedish technical information work, Dr. A. Silow, Falun, who has achieved splendid results and laid the foundations for all future work. The report contains a detailed historical account of the technical information service in Sweden as hitherto practised at the libraries of the two Universities of Technology and at Swedish industries and research institutions. It also contains all pronouncements given by Swedish technical scientific institutions and research societies affected by the

[1] *Betänkande med förslag till åtgärder för främjandet av litteraturtjänsten inom de tekniska ackområdena.* Stockholm 1944. (Statens offentliga utredningar. 1944:17.) 165 pp.

issue and finally a thorough analysis of the organization of the work at the libraries of the Universities of Technology. It is proposed that those two libraries be rapidly *enlarged so as to become technical central libraries for their respective universities and also for the technical-scientific research in progress at the research institutes and the various Swedish industries*. It is further proposed that the two new technical central libraries, the *Library of the University of Technology in Stockholm* and the *Library of Chalmers University of Technology in Gothenburg*, be placed in the same category as the University Libraries in Uppsala and Lund as regards organizational matters.

The measures proposed by the expert committees for the organization of a centralized technical library service in Stockholm and Gothenburg have recently been sanctioned by the Government, and the Swedish Riksdag has decided in accordance with the royal proposition.

In large departments of technology the activity of the two new central libraries will run parallel and overlap. Common fields of collection will be, e.g., electrical engineering, mechanical engineering, civil engineering, architecture, chemistry, mechanical industries, and aviation. In other departments there will be a certain differentiation. In connexion with the research institutions attached to one or other of the two universities, as well as the partly different branches represented there, a fuller collection of works in, e.g., mining technology and wood and cellulose research will be found at the Stockholm library, while, e.g., the literature in shipbuilding and shipping, textile industry, and food manufacture will be better represented at the Chalmers library in Gothenburg.

The two technical central libraries have thus reached a milestone in their evolution. They trust that they are entitled to look forward to their new phase of development with confidence and satisfaction. Increased grants for book purchases and salaries to the staff afford a possibility of greatly improving their information service. This service is put at the disposal in the first place of the instruction and research work at the universities, and then of the entire Swedish industry. In addition the libraries aim at being literary centres to which foreign institutions and libraries may write when first making a search for scientific and industrial information.

The new series of scientific publications appearing at the two universities (*Transactions of the University of Technology in Stockholm* and *Transactions of Chalmers University of Technology*) afford the libraries rich opportunities of opening up new exchange connexions throughout the world. The great generosity and kindness shown by English and American institutions in complying with proposals made by the libraries for exchange transactions has been very encouraging and stimulating in our work. The libraries publish monthly lists of their new acquisitions (the Chalmers library since 1939, the Stockholm library since 1945). These lists are circulated to all libraries and important industries in Sweden and to libraries abroad. At the Chalmers library there have been since 1939 regular library lectures for new students at the university, and similar courses in library technique have

been arranged from 1945, too, for the students at the University of Technology in Stockholm. The aim of these library lectures is to foster, also at the Swedish Universities of Technology, a generation of technicians and leaders of industry with a clearer view of library work, from their years of study used to and familiar with works of reference and other sources of information. For it is only through this basic knowledge of the part played by technical literature in scientific research work that this literature can reach its due position.

The catalogues of the two central libraries are arranged according to the Library of Congress system (the only scientific libraries in Sweden using the L.C. classification). Daily experience has taught us that this system is very suitable and adaptable in a technical library. For reference work inside the library a great part is played by our large collections of reference cards to periodical literature. At the Chalmers library these cards are brought together in one single collection (on the pattern of the card collection in the Science Museum library). In Stockholm the different card collections are separately arranged. Efforts are being made at present to induce the different Swedish branches of industry and the editors of technical papers to publish reference cards at regular intervals (with U.D.C. numbers) to the articles in their several papers as well as to important articles appearing in foreign periodicals. A plan is being discussed, aiming at the creation of a common Scandinavian reference paper, possibly in the form of a reference appendix to the *Index for Industrien*, published by the technical libraries of Denmark. Among Swedish reference publications which have appeared up to now mention may be made of the references published by Cement- och betonglaboratoriet (The Cement and Concrete Laboratory) at Limhamn, appearing in the periodical *Betong* (Concrete), the references issued by Svenska sockerfabriks ab (The Swedish Sugar-works, ltd.) in Malmö, appearing in *Meddelanden från sockerbolagets bibliotek* (Reports from the library of the Sugar-works), the reference section in *Jernkontorets Annaler* (Annals of the Iron Office; also in the form of cards in international size), the reference section of the *Svensk papperstidning* (Swedish paper journal; also in cards), and the condensed versions of the articles in *Teknisk Tidskrift* (Technical journal; the leading Swedish paper in the field) appearing in the same journal. Finally there is the recently founded *SAR litteraturtjänst* (SAR information service), published by Svenska arkitekters riksförbund (The Association of Swedish Architects), comprising civil engineering, architecture, and town planning. As a matter of course, all these reference collections are being accumulated in the card collections of the technical central libraries.

One of the most urgent tasks of the libraries at present is to gather information about the entire literary material available at the Swedish industries not represented already in the collections of the libraries, and to insert this information into their catalogues. The periodical literature is in this respect of special importance. On account both of its huge extent and the numerous lacunae in the collections due to the war, it is

of prime importance that the libraries get a clear and comprehensive view of the material existing in the country. This would make possible an efficient clearing service between the industries through the central libraries.

The efforts of the central libraries to serve the universities and industries with literature and information about literature have been successful. At least we make bold to believe that the rising figures of the statistical tables may be thus interpreted. The number of visitors at the Stockholm library rose during the period 1939/40–1944/45 from 17,683 to 33,052, and at the Chalmers library during the same period from 11,601 to 29,568. The lendings increased during the same time in Stockholm from 11,409 to 28,809 and in Gothenburg from 8148 to 24,980.

Apart from the information service of the technical central libraries, important work in this respect is being done at the Swedish industries, in close connexion with their more and more intensified research and laboratory work. The investigations carried out in preparing the library report have shown the number of books owned by the Swedish industries to be about 210,000 volumes, or an average of 1570 volumes to each reporting industry. In 81 cases the libraries possessed between 100 and 1000 volumes, in 40 cases between 1000 and 5000, in 7 cases more than 5000, and in 2 cases above 10,000 volumes. Special bibliographies have been compiled at 30 of the libraries, while 51 were owners of reproduction apparatus for textual photography. Twenty-nine industries had organized a reference service of their own, in most cases in co-operation between the library and the technicians and research workers attached to the industry. Index to periodical literature was kept at 35 industrial libraries.

Most of the important industrial libraries belong to the branches metal industry, electrotechnical industry, and chemical industry. The leading ones are the library of Stora Kopparbergs Bergslag in Falun, the ASEA libraries in Västerås and Ludvika, the SKF library in Gothenburg, the libraries of Bofors, Boliden, Mo och Domsjö, Atlas Diesel, and L. M. Ericsson in Stockholm, Astra in Södertälje, and Billerud in Säffle. Among other industrial branches mention may be made of the library of Skånska cement AB in Malmö and the Esselte library in Stockholm.

It need hardly be said that a very important part in Swedish information service is played by the numerous technical-scientific institutions with their in many cases modern and efficient information activity. Among institutions of this kind we may recall the libraries of the Ingenjörsvetenskapsakademien (The Academy of Technology), Patentverket (The Patent Office), Statens provningsanstalt (The State Testing Station), Statens hantverksinstitut (The State Trade Institute), and Järnvägsstyrelsen (The Board of Management of the State Railways), all of them in Stockholm. The university libraries in Uppsala and Lund perform an important function as auxiliary libraries in the fields of mathematics, mechanics, physics, and chemistry.

The Technical Information Service in Sweden

All efforts to make the technical literature known and to render it useful have found a common organ in Tekniska Litteratursällskapet (The Society for Technical Information Service). The society includes a great number of persons who in their capacity as librarians, heads of laboratories, epitomizers of technical literature, editors of periodicals, &c., are immediately interested in questions connected with technical information service. The society is thus a direct Swedish counterpart to Aslib. In the statutes of the society its chief task is defined as being to create a living interest in problems relevant to technical literature, as examination, classification, listing, and distribution of information concerning technical literature. A further aim of the society is to represent Swedish interests in the international collaboration in this field. It issues a series of publications, at present amounting to eighteen numbers, and since 1945 a periodical paper, *Teknisk Dokumentation* (Technical Documentation), edited by Barbro Hallendorff, librarian, Esselte, Stockholm. Among other initiatives of the society may be mentioned that it is preparing a Swedish edition of U.D.C. and that it has agreed to act as Swedish section of FID. Lectures and discussions have contributed to make the activity of the society widely known and appreciated, and it has become a very important forum for the creation of interest in and favourable opinion for rational organization in the various fields of technical information service. Especially under its present head, Professor Edy Velander, one of the most active brains and foremost representatives of modern Swedish technology, the activity of the society has been very considerably intensified.

Problems connected with Swedish technical nomenclature have been taken over by a special organization, Tekniska Nomenklaturcentralen (The Centre of Technical Nomenclature), whose activity in this field, now more and more in the focus of interest, has been very useful.

La Documentation scientifique et technique en France

By J. WYART

Service de Documentation du Centre National de la Recherche Scientifique

AVANT 1940 la France tirait de l'étranger la plus grande part de sa documentation scientifique et technique. Pendant les années d'occupation allemande, elle s'est trouvée dans la nécessité, étant donné son isolement, de perfectionner ses propres moyens de documentation. Plusieurs centres de documentation, privés et officiels, ont été créés et se sont largement développés. Ce développement a été favorisé par la vie ralentie de l'industrie et des laboratoires scientifiques; ce qui a permis le recrutement d'ingénieurs et de chercheurs maintenant spécialisés dans la documentation. Ainsi l'occupation allemande a eu comme conséquence heureuse — et c'est sans doute la seule — l'augmentation du nombre et de la puissance des services de documentation scientifiques et techniques de notre pays.

Ces Services ont, soit un caractère général, comme celui du Centre National de la Recherche Scientifique; soit un caractère particulier comme ceux de la chimie, de l'aéronautique, de la mécanique, de la sidérurgie, de la fonderie, des travaux publics, des chemins de fer, etc. . . . Rien d'exactement comparable à l'Aslib n'existe en France. Cependant l'U.F.O.D. (Union française des organismes de documentation) est une Société à laquelle adhère un grand nombre de documentalistes et de bibliothécaires; dans les réunions, on y expose les doctrines de la documentation. Depuis un an, l'U.F.O.D. a organisé des cours en vue de former des documentalistes.

Le *Service de Documentation du Centre National de la Recherche Scientifique* (18 Rue Pierre Curie, Paris 5e) est, sans nul doute, parmi les services de documentation à caractère général, celui qui a pris, depuis quatre ans, le plus grand développement. Son but est de faciliter au maximum, aux chercheurs des laboratoires scientifiques et techniques, les recherches bibliographiques. Les moyens d'action sont essentiellement un *Bulletin analytique* et un *Service photographique.*

Le Bulletin analytique est une revue mensuelle qui signale rapidement, par de brèves analyses commodément classées par matière, les articles parus dans les périodiques scientifiques et techniques parus dans le monde. Il comporte deux parties. La première concerne les sciences mathématiques, physiques et chimiques, géologiques, ainsi que les techniques qui s'y rattachent, la seconde se rapporte aux sciences biologiques et physiologiques.

Le Service photographique, à l'origine, avait pour but de fournir rapidement la reproduction sur microfilm ou sur photostat des articles signalés dans le Bulletin. Ainsi, sans quitter sa table de travail ou ses appareils, le chercheur reçoit les documents qu'il désire et qu'il a la possibilité de classer et de conserver. Le succès de cette méthode de documentation a été tel qu'il a fallu l'étendre aux documents anciens,

antérieurs au *Bulletin analytique* et que l'on trouve dans les bibliothèques. Des spécialistes recherchent d'abord l'endroit ou se trouve le document désiré; un garçon de course va l'emprunter pour le photographier. Le procédé de reproduction le plus utilisé est le microfilm (de 35 mm.) livré sous forme de bandes de 23 cm. comportant la reproduction de 10 pages de format 18×24 mm. D'excellents appareils de lecture, relativement pas encombrants, sont fabriqués en France. Voici quelques chiffres qui font ressortir le succès de cette méthode. Ils concernent des articles scientifiques n'excédant généralement pas dix pages; ils ont été obtenus dans des conditions très difficiles (froid; coupures de courant électrique) et indiquent le nombre de pages microfilmées par année et livrées à des chercheurs—

1940 . .	1000 pages	1943 . .	450,000 pages
1941 . .	40,000 „	1944 . .	800,000 „
1942 . .	150,000 „	1945 . .	1,000,000 „

Le Service de Documentation du Centre National de la Recherche Scientifique est aussi un organisme de coordination des divers services de documentation français; c'est ainsi qu'il tient à jour des traductions faites dans ces différents services; ce qui évite qu'un même article soit traduit plusieurs fois. Il dirige, vers les Centres spécialisés, les chercheurs ayant besoin d'une documentation particulière. De nombreux étrangers s'adressent déjà à lui pour obtenir la reproduction de documents ne se trouvant qu'en France.

Report on the Present Position of Information Services in the Netherlands

By DR. F. STEGGERDA

Director of the Nederlandsche Instituut voor Documentatie en Registratuur

THE Netherlands Institute of Documentation tried to continue its work during the war, and in fact succeeded in doing useful work in the first war years. In 1944, however, its activities almost stopped.

The 'literature research service' has now a staff of six. It makes, on request, bibliographies, abstracts, or literature surveys either as separates or as periodicals. Sometimes the work is very extensive, and then the inquirer is charged about 50 per cent. of the cost price.

This department works in connexion with the 'literature intermediary service' which indicates where a certain book or periodical is located, and gives help in borrowing or ordering photo-copies from elsewhere.

The 'reproduction service' makes reproductions of articles from periodicals, patent specifications, or parts of books. The equipment consists of four diazo-type-reflectography machines, two automatic printing machines, and a camera for reduced size copies.

The yearly production is about 80,000 full-size copies.

Another department of the institute is the 'advisory for filing'. This service organizes the documentation departments of public bureaux or of industrial and commercial firms. Special committees were established in connexion with this service on behalf of the electrical power stations and of the waterworks services in the Netherlands.

The advisory service complained of insufficiently trained persons working in various documentation departments of public and private enterprises, so the N.I.D.E.R. decided to create 'training courses for documentalists'. Such courses exist now for 'general documentation', for 'cataloguing and alphabetizing', for 'classification', and for 'research and information'.

Various committee work has been undertaken. In the field of standardization preparatory work has been done for the standardization of:

(1) paper sizes;
(2) sizes of reproduction materials;
(3) the transliteration of Russian characters (NIDER publ. 217);
(4) literature references (N. 917);
(5) bibliographical cards and strips (N. 1471);
(6) terminology of documentary reproduction methods;
(7) abridged titles of periodicals (N. 782);
(8) ABC rules (manual for alphabetical arrangement, NIVE Publ. 218);
(9) reference data and composition of periodicals.

Two other committees dealt with methods of reproduction and with classification (especially the Universal Decimal Classification).

Pamphlets on various topics in the field of documentation were published and discussed at the annual convention.

The periodical *Korte Mededeelingen* changed its name twice. In 1941 it was modified to *Mededeelingen*, and in 1944 by order of the authorities to *Tijdschrift voor Efficiency en Documentatie*.

The German occupier forced us to stop the publication of the *Repertorium Technicum*, but we still continue so-called 'partial subscriptions', which give bibliographical data on cards.

The main non-periodical publications were:

(*a*) *The Nider Directory of periodicals in the field of natural science, medicine, and technics* (NIDER publ. 197). Thanks to the help of the Rockefeller Foundation, it was possible to have the material compiled and printed. The book contains 470 pages and the names of about 17,200 periodicals held in 416 libraries in the Netherlands.

(*b*) *Abridged Netherlands Edition of the Universal Decimal Classification.* The first edition of 1934 being out of stock, a second, more extensive and improved edition was prepared. It was published in 1941. This edition supplied such a want that the second edition was out of stock within a year; a third edition appeared in 1942, and in spring 1944 even a fourth edition became necessary (NIDER publ. 198, 209, and 237). Moreover, an alphabetic register to the *Universal Decimale Classificatie* joined the series (publ. 216), not only to be used with the Netherlands Abridged Edition, but also for the orientation of the complete editions of the U.D.C., edited in foreign languages (NIDER publ. 216).

Smaller publications were (titles translated):

Scholten, Dr. W., *The periodical literature of the Patent Office.*

Reimsdijk, G. A. van, *Documentation of economics.*

Introduction to the Universal Decimal Classification.

Donker Duyvis, Ir. F., *Standardization in the field of documentation.*

Veldkamp, Gerh. H. P. *The documentation service in the organization of an industrial enterprise.*

Varossiau, Dr. W. W., *Documentation in scientific research and its co-ordination.*

Special Library Facilities in Norway

By JOHN ANSTEINSSON

Norges Tekniske Højskole Hovedbiblioteket

NORWAY, with a population of less than half of the inhabitants of London, has not much to offer in the way of special library service of the kind promoted by Aslib and similar organizations in other countries.

Research workers mainly rely on the resources of the three large general libraries: the University Library of Oslo (founded 1811, 1,000,000 volumes), the Bergen Museum Library (1825, 250,000 volumes), and the library of the Royal Norwegian Society of Sciences (1783, 190,000 volumes). These libraries are the main workshops of the humanistic scholars. They all have long runs of proceedings of the learned societies of the world and of periodicals in the basic sciences.

Research in pure and applied sciences, which is dependent on laboratory equipment, is mainly pursued in university institutes in Oslo and Bergen and a few independent institutes in these and other cities. These institutes are all fairly well equipped with libraries or reference collections for their own use. They rarely have trained librarians, but are run by one of the research staff aided by an office attendant. They are not co-ordinated mutually or with the University Library.

The general libraries are supplemented by several special libraries in various branches: Stortingets bibliotek (Library of Parliament), numbering around 60,000 volumes, is strong in politics and social sciences and parliamentary papers and government publications from various countries. The library of the Bureau of Statistics (Statistisk Sentralbyrå), some 60,000 volumes, and the library of the Nobel Institute cultivate the field of international relations and general history. The public are admitted to all these libraries.

State institutions, such as the Norwegian Geological Survey and the Norwegian Institute of Meteorology in Oslo, with weather-forecasting sections in Bergen and Tromsø, have considerable book collections in their special lines, but mainly for office use. In Bergen the State Research Station for Fisheries maintains a well-organized library. The library publishes a valuable bibliography of fisheries every second year. Medical science has no general medical library, but the State Hospital and the various municipal hospitals are fairly well equipped with libraries. A Union list of foreign medical periodicals in hospitals and in private ownership was published some twenty years ago, but is badly in need of revision and reissue.

Facilities for industrial and engineering research were rather poor till the Norwegian Institute of Technology in Trondheim was established in 1910. Trade and industry, engineers and technicians, in Oslo have always suffered from the want of a good general technical library. Many efforts have been made to establish one, but till now in vain.

The main library resource of the engineers of Oslo is the municipal library, the Deichmanske bibliotek, which has maintained a technical department since the erection of its new building some twenty years ago. This library does good service as far as it goes. But insufficient appropriations and limited staff are hampering the efficiency of the work. Especially one misses a well-rounded-up collection of periodicals, which is the basis of every research library. The main scope of this library is the dissemination of the results of research, however, rather than activating new research.

The library of the Foreign Department was established by merging the reference collections of the department with the library of the former Information Office of Trade and Industry and that of the Department of Agriculture. It contains considerable collections of technical and industrial literature, stressing business economics and the commercial side. The public is admitted, books may be borrowed, and searches of the literature are made on request.

The Patent Office is another institution with a fairly large technical library for patent research. The public is admitted, but books cannot be borrowed.

The largest technical library is that of the Norges Tekniske Højskole in Trondheim (the Technical University of Norway, as some translate its name in English, to stress its university standing). It is rather a library system, comprising a main library and some thirty institute libraries and reference collections, aggregating 110,000 volumes. It has a common purchasing and preparation department and a central Union catalogue. The libraries subscribe to nearly 500 periodicals. Around 100 are distributed directly, when received, to the subscribing institutes, some 200 are circulating regularly to the professors and instructors, while the rest remain in the main library.

As library facilities for engineering studies are rather poor in most industrial centres, this library is referred to by industry and engineers all over the country when they are in need for aid in special problems. The library undertakes searches of the literature, but is insufficiently staffed for this task. It lends books all over the country and provides photostat copies or microfilm copies from periodicals and papers which cannot be sent away. In many cases such copies are procured from foreign libraries when the periodicals wanted are not at hand.

Some new research institutes, such as one for the paper industry in Oslo and one for the canned food industry in Stavanger, are doing valuable work in their particular fields. A recently established Research Association for Norwegian Industry, which commands ample subsidies, may contribute to the co-ordination of efforts also in library service.

Comprehensive governmental plans for extensive industrial and engineering research are under way, and the effectualness of these plans will naturally call for reinforcement of existing libraries, and particularly a more efficient library service.

Attempts are made to pool the library resources of pure and applied sciences by co-ordinating the purchases, establishing Union catalogues,

inter-library loans (which already is practised to a large extent), and other mutual services.

A Union catalogue (on cards) of foreign periodicals in Norwegian libraries was compiled by the librarian of the Foreign Department some years before the war. This catalogue is at present hopelessly out of date as the war has entirely changed the holdings of foreign periodicals. More than 50 per cent. of the periodicals subscribed to by Norwegian libraries were of Germanic origin. Now the English and American periodicals are prevailing, and a large number of new subscriptions have been booked. A thorough revision of the Union catalogue must be undertaken, and it is hoped that it can be published before long.

A Union catalogue of foreign books in Norwegian libraries is established in the University Library, but it is still in embryo. Some technical libraries exchange catalogue cards of their new acquisitions.

An index to the Norwegian periodicals is published annually by the head of the Norwegian section of the University Library, who has also published a number of special bibliographies of Norwegian subjects, mainly bio-bibliographies.

An index to foreign technical journals was published privately for some years, but had to be discontinued on account of insufficient support. Plans for a Scandinavian abstract journal for engineering and industry are discussed, and it is hoped it will be realized shortly.

Much is yet to be desired before Norwegian special library service is developed as wanted. But the new awakened interest in scientific and industrial research will certainly give us an efficient organization before long.

The Documentary Resources of Present-day Germany

The Acquisition of German Publications for Use in Great Britain

BY KENNETH GARSIDE, M.A.

Deputy Librarian, University College, London

The state of documentary resources in Germany

ANY attempt to assess the actual state of the documentary resources of Germany must necessarily be inadequate and incomplete. The country is partitioned into four zones of occupation, with its capital as an island in the middle of the Russian zone, belonging at once to everybody and to nobody. Communications between the three western zones are now more or less normal, but information from the eastern zone, occupied by the Russians, is sketchy and often grossly inaccurate, despite the fact that an inter-zonal postal service is now available to the Germans. Even within our own zone information is difficult to collate owing to the decentralization of the bureaucratic control machinery: to take an example, some half-dozen different divisions or branches of the Control Commission are responsible, in one way or another, for libraries in Germany. These limitations must be borne in mind in reading this analysis of the country's documentary resources.

It will be logical to examine first of all the condition of the German libraries at the end of the war, for it is in these institutions that we might have hoped to find preserved for us the results of research and scholarship during the years 1939–45. Many libraries suffered severe damage to their buildings, and many, too, suffered irretrievable losses to their book stocks, either during air attacks or in the course of the subsequent military operations. Of some thirty important libraries of which I have information, only one, the library of the Deutsches Museum in Munich, could report that it had not lost a single book, though the university libraries at Tübingen and Freiburg-im-Breisgau and the State libraries at Fulda, Augsburg, and Bamberg are known to be materially intact.

In Berlin the building of the Prussian State Library was almost completely gutted (1). Fortunately its books were evacuated to places of safety; but these were scattered throughout what are now the four zones of occupation and it is an ironical consequence of Berlin's international character that it will not be possible to reassemble them until some sort of agreement on the subject is reached between the occupying Powers. In the meantime the State Library has combined with the adjacent University Library to provide a skeleton book service for the population of Berlin. The *Gesamtkatalog der Preussischen Bibliotheken* was published as far as its fourteenth volume, but the fate of the manuscript material for subsequent volumes is uncertain, and rumour has it that it may have been lost in Silesia.

A detailed study of the fate of the other important libraries of Germany would result only in a tedious mass of statistics. As an indication of the damage, though, it may be said that, of the university libraries, Münster has lost everything, Munich, Würzburg, and Giessen each lost over two-thirds of its books, Heidelberg lost books stored in outlying repositories, and Kiel lost all its science books and more; whilst of the State libraries Kassel and Karlsruhe each lost over 300,000 volumes, and Darmstadt and the Bavarian State Library at Munich each lost half a million books. At Stuttgart, too, the Württemberg State Library lost half its 1,250,000 volumes, and a society was immediately formed to sponsor its reconstruction. Göttingen and Marburg Universities placed half their stocks in mines for safe keeping, and their fate is still uncertain because the mines have suffered severe damage, and it is not yet known whether it will be possible to recover them.

One important survival in the British zone is the library of the Institut für Weltwirtschaft of Kiel University. This unique collection of 350,000 volumes and 11,000 periodicals, mostly dealing with economics and kindred subjects, was evacuated to a monastery at Ratzeburg on the Elbe, where it remains undamaged and in working order. Plans are afoot for its re-establishment in Hamburg since no suitable accommodation is available in Kiel. This library is of outstanding value because it carried out a considerable buying programme in the western occupied countries in 1940, and may therefore be considered to possess the most exhaustive collection in its own field.

Germany is rich in technical libraries set up by its huge industrial organizations. In view of the part played by industry in supplying the country's war needs, these libraries were assured of receiving all wartime documentary research material in science and technology, and consequently they have proved a fruitful source of bibliographical information in those subjects. Probably the most remarkable of these libraries is the Kekulé-Bibliothek of I.G.-Farben, containing some 150,000 volumes: this library suffered little loss, and the bulk of its stock has now been recovered from the mine in which it had been stored for safety. It is a cause for some concern that the fate of these libraries is in the balance, for the industrial concerns to which they belong are, by virtue of their important place in the German war economy, scheduled for reparations. It will be a great loss to research if such libraries are disbanded on this account.

Although the bibliographical resources of German libraries are sorely depleted, there is a sense of purposeful activity in the air, and most of the libraries which lost their buildings during the war are now energetically re-establishing themselves in such temporary premises as they can command, and a restricted book service is available. Many find it impracticable to provide books on loan outside the limits of the town in which they are situated, but the State library at Wiesbaden and the university libraries at Marburg and Erlangen are reported to have resumed normal lending facilities. A recent estimate shows that about one million volumes are now available on loan to the public.

The Documentary Resources of Present-day Germany

A conference of librarians in the American zone was convened at Stuttgart last April, and its proceedings give ample proof of the very real determination to surmount the difficulties facing German libraries under the present conditions. The conference realized the need for regular consultation between librarians to discuss the problems now arising, and called for the revival in western Germany of the *Zentralblatt für Bibliothekswesen*. It went on to examine means of procuring works published in America, France, and Switzerland, and was alive to the need for including in German libraries works written by *émigrés* during the Nazi régime. Plans were also tabled for the recruitment and training of librarians to replace those who had left on retirement or who had been relieved of their posts by the control authorities on account of their political associations.

In Germany, as in Great Britain, publishing was restricted during the war. Paper and labour shortages meant smaller editions and fewer publications, whilst the distribution of a considerable proportion of research material was limited to those universities and institutions which were actively engaged on war work. Air attacks and military operations took their toll of printed material still in the hands of the publishers and wholesalers; and anyone who has seen the unbelievable destruction of the central areas of German towns and cities, almost without exception, must realize that even the stocks of books held in the smallest retail bookshops could hardly hope to escape. The loss seems to have been particularly heavy in Leipzig, where publishers naïvely believed that their city would be spared the attentions of the Allied bombers because of its cultural importance as the centre of the German book trade.

Since the occupation of Germany the publishing potential has been considerably reduced by the policy of denazification, which has weeded out both publishing houses with Party affiliations and writers known to have been active Nazis. It is estimated that about half Germany's printing plant was destroyed during the war. Yet the German book trade is far from dead: in the British zone alone about a hundred books are published monthly, and in May of this year some thousand titles were reported to be at the type-setting stage. Publishing is controlled—in the British and American zones, at least—by the Information Services Control branch of the Control Commission, which licenses publishers who have satisfied the authorities as to their political history and issues permits for the publication of specific titles, bearing in mind the soundness of the subject-matter, its probable circulation, and the availability of paper (2). Although a lot of trash is being produced by upstart publishers, an appreciable quantity of sound material is beginning to flow from the more reputable publishing houses, and a recent list showed that no less than 140 parts of Abderhalden, *Handbuch der biologischen Arbeitsmethoden*, had been passed by the censorship authorities for publication. This does not mean, of course, that a large volume of research material will appear on the market immediately: paper is much scarcer in the western zones of Germany than it is in this country,

and it has been rightly felt by the Control Commission that books for school use should have priority in the allocation of the meagre supply of paper. Alongside the established scientific periodicals, which are being revived one by one, new intellectual journals are appearing, and they are eagerly snapped up the moment they appear on the bookstalls. Of these, *Die Wandlung* is a monthly published in Heidelberg, *Der Standpunkt* appears monthly in Frankfurt-am-Main, and *Die Gegenwart*, published fortnightly at Freiburg-im-Breisgau, carries on the liberal traditions of the pre-Nazi *Frankfurter Zeitung*; whilst *Der Aufbau*, published in the Russian zone, draws most of its material from the pens of those German intellectuals who sought refuge from the Nazis in Moscow.

Despite the fact that its output will necessarily remain modest for some time to come, the book trade is alive to its responsibilities and is setting out to reorganize itself in the light of changed circumstances. Attention is being paid to the training of younger people to take the place of those who have retired or been retired; and it is amusing, in this connexion, to notice that a trade journal has recently carried a series of articles on how to run a bookshop, adding, with typical German *Gründlichkeit*, that the intending bookseller would do well to choose a wife who was herself interested in books.

A sign of the times has been the well-marked tendency of the book trade to leave Leipzig, in the Russian zone, and to move to the district of Frankfurt-am-Main and Wiesbaden, where contact with the western world is so much easier. The well-known publishing houses of Reclam, Insel, Brockhaus, Dietrich, and Diederichs have all established themselves in Wiesbaden, whilst important wholesalers have come to Frankfurt. At the same time, the Austrians have declared their intention of establishing Vienna as the centre of the German-language book trade.

Leipzig has long held a unique place as the centre of the German book trade, and it is probably on this account that the city is also the main bibliographical centre of German-speaking lands. Here were the headquarters of the Börsenverein des Deutschen Buchhandels, an association which included among its members many from Austria, Switzerland, and Czechoslovakia. It was its international character which saved the Börsenverein from interference on the part of the Reichskulturkammer, even though the component departments of this Nazi organization controlled closely all other publishing activity in Germany. The Börsenverein published exhaustive bibliographical works covering the whole of literature in the German language: among them were the *Deutsche Nationalbibliographie*, which continued publication up to the end of 1944; the *Deutsches Bücherverzeichnis*, a five-year catalogue, the last issue of which covered the years 1936–40; and the *Halbjahrsverzeichnis der Neuerscheinungen des deutschen Buchhandels*. Work on the *Monatliches Verzeichnis der Reichsdeutschen amtlichen Druckschriften* ceased in the middle of 1943 owing to the shortage of staff, and many other of its normal bibliographical activities were similarly suspended.

Closely associated with the Börsenverein was the Deutsche Bücherei, and it was the expert staff of this library which in fact produced the

bibliographical data published by the Börsenverein. The Deutsche Bücherei is a deposit library containing a copy of every item published in the German language since 1913—a total of some 2,500,000 volumes, of which 15,000 were lost during the war. Some months ago it was suggested that, in view of the unsatisfactory state of communications between Leipzig and western Germany and the uncertainty as to whether the Russian control authorities would permit the continued publication and dissemination of the bibliographical reference works of the Börsenverein, a new deposit library, a Deutsche Bücherei des Westens, should be set up at Frankfurt-am-Main. This project evoked strong protests from Leipzig on the grounds that it would cause a partition of German bibliographical research. When the suggestion was made there was much to be said in its favour, and the proposal to call for two deposit copies of every work, one to be kept at Frankfurt and the other to be sent to Leipzig, safeguarded the integrity of the original Deutsche Bücherei; but news from the Russian zone is now more reassuring, and it is likely that the project will be dropped. We are told (3) that the Russian authorities have permitted the Börsenverein publications to be resumed, and six issues of the *Deutsche Nationalbibliographie* have just appeared in Leipzig. At the request of the Russians this work is to cover, for the time being, only items published since the capitulation in May 1945, and it is expected that the gap caused by the last five months of the war will be covered at a later date.

The *Börsenblatt für den deutschen Buchhandel*, the accepted news journal of the German book trade, which had been published for 112 years by the Börsenverein at Leipzig, was revived at Wiesbaden at the end of last year. We now hear that the *Börsenblatt* has recently been revived in Leipzig, but it is too early to say what the relationship will be between the original Leipzig series and the Wiesbaden series of the journal. Logically, the Wiesbaden edition must be looked upon as a temporary expedient until the original paper could be revived at Leipzig, but there is unfortunately reason to believe that the Börsenverein looks upon the Wiesbaden *Börsenblatt* as a rival and an impostor. Other less exhaustive book-trade journals have appeared in Bavaria and in the French zone of Germany.

The procurement of German publications

In the foregoing paragraphs I have shown that the bases of bibliographical documentation do exist in Germany to-day, and we must now examine the extent to which these are being made available for exploitation in this country. The situation is far from encouraging, for even now, sixteen months after the end of hostilities, scarcely any of the research material published in Germany since 1939 is available in British libraries.

In August 1945 the Enemy War-time Publications (Requirements) Committee, better known as EPCOM, was set up under Government auspices. This committee represented both the interested government departments and the libraries and other agencies in this country which

had need of the war-time publications of enemy countries. From the point of view of research material, the most important enemy country was undoubtedly Germany. The first step was to call for lists of desiderata from the various libraries and institutions; and from these the committee proceeded, with a hopelessly inadequate staff, to compile a consolidated list of requirements which would serve as a guide to those concerned with the actual procurement of books in Germany. In the meantime H.M. Stationery Office sent a representative to Germany to obtain material required by government departments and by the British Museum, and EPCOM sent its own expert on the foreign book trade to explore the ground and to persuade German publishers and booksellers to set aside some at least of their remaining stocks of those works which he knew to be wanted in this country. EPCOM also sent individual investigators to Germany to visit specific targets where useful material was known to lie.

Despite the official recognition enjoyed by EPCOM, there were inherent weaknesses in its constitution which rendered its activities in Germany largely ineffective for some time: firstly, the procurement of material was to be effected only against the consolidated list of requirements, which is even now incomplete; secondly, no branch of the Control Commission was responsible for granting EPCOM's representatives the necessary authority to carry out their task inside Germany, nor for providing facilities for the shipment to this country of the material acquired; and, thirdly, there was until recently no satisfactory means of paying the Germans for the books and periodicals bought from them. It is fair to say that the meagre results so far obtained by EPCOM could hardly have been achieved had not a handful of individuals with the interests of learning at heart, including one or two professional librarians fortuitously placed on the staff of the Control Commission, given EPCOM's representatives unofficial aid and made *ad hoc* arrangements for passing their gleanings to England. It was these librarians, too, who supplied much of the current bibliographical information required by EPCOM at its London office.

Only at the end of May of this year—nine months after its inception—did EPCOM finally establish a permanent office at Hamburg. Adequate and official facilities are now at its disposal in Germany; the partial consolidated lists of requirements have been sent to Hamburg; the procedure for procurement, payment, and shipment has been approved by the responsible branches of the Control Commission; and we may now hope to see a steady flow into this country of whatever remains of the stocks of German war-time publications.

We must not expect too much, for, as I have already indicated, war-time editions were small and many items were diverted from normal book-trade channels. More important still, others have been in the field before us. The Americans have adopted a far-sighted policy throughout the war for obtaining the current publications of all European countries, and representatives of their procurement organization were close on the heels of the advancing troops, locating stocks of books and buying up

whatever they felt was needed in the United States. The Russians, too, requisitioned widely both in Berlin and in their own zone, which, it will be remembered, contains the important publishing centres of Leipzig, Halle-an-der-Saale, and Jena. We are told that in Berlin the Russians have acquired, by requisition or by purchase, fifteen times as much material as have the other Allies together.

It is worth while examining in greater detail the methods adopted by the Americans (4): they contrast sharply with our own. They established at their headquarters at Frankfurt-am-Main an office known as the Library of Congress Mission, which was directly sponsored by the U.S. War Department and was staffed by half a dozen or more experts, largely drawn from the acquisitions department of the Library of Congress. Immediately after the capitulation the mission was able to procure stocks of books in Thuringia and Saxony, and especially in Leipzig, sometimes taking away the publisher's last remaining copy. Its avowed policy was to obtain a minimum of three, and if possible twenty-five, copies of every saleable book published during the war: in some cases as many as a hundred have been acquired. Its activities cover the whole of western Germany, and a representative is permanently stationed in the British zone (5). Another invaluable piece of work done by the Americans during the short time their troops occupied Leipzig at the end of hostilities was the microfilming of the complete records of accessions to the Deutsche Bücherei from 1937 right up to the end of June 1945. This film is now in the possession of the Library of Congress Mission and its documentary value is, of course, unique.

EPCOM's terms of reference give it authority to deal only with wartime publications, and the Trading with the Enemy Act effectively precludes the procurement of German publications by any other agency. Up to the present time, therefore, nothing has been done to obtain works published in Germany since May 1945 for use in this country. On the other hand, the Library of Congress Mission has been empowered to cover the post-war field on behalf of the libraries of the United States, and not only buys a quota of every important work published, but actually has a priority option on new publications appearing in its own zone. Representations are now being made that the scope of EPCOM be widened to include works currently published in Germany, and it is hoped that in this way the EPCOM office in Hamburg may be able to procure contemporary items as well as those published during the war. There is no practical reason why this should not be so: the EPCOM machinery as it now exists in Germany is perfectly competent to undertake this additional function. Whether EPCOM will in fact be permitted to procure stocks of current publications is another matter. There is reason to believe that the Control Commission may wish to retain the whole of the limited output of German publishers for circulation within Germany, thus effectively denying to British scholarship and research anything more than, at most, specimen copies of new books and periodicals.

The apprehension felt in this country at the delay in permitting the

resumption of exchanges of publications between the learned societies of Great Britain and their German counterparts has been allayed by the news that negotiations on this very subject are now proceeding between EPCOM, the British Council, and the Control Commission. It is, however, quite evident that the majority of societies and institutions in Germany have set aside copies of their publications against the day when intellectual intercourse with this country can be resumed; and the question of exchanges is therefore not as urgent as is that of the procurement of material published in the ordinary way.

To sum up: the one thing that is clear and indisputable is that we have already lost untold opportunities of obtaining German documentary material since 1939. EPCOM has, through no fault of its own, never been much more than an advisory body: instead, it should have been given executive authority and it should have been provided with experts permanently assigned to the task of compiling in this country the consolidated list of requirements, whilst others should have been sent with wide powers to procure in Germany any work which had an obvious place in our research libraries. It is too late to hope to recover all the lost ground, and gaps on our library shelves will for ever proclaim our failure and lack of foresight in this respect. But strong measures still need to be taken to ensure that we at least keep pace with the progress of documentary activity in Germany to-day.

REFERENCES

1. An account of the present condition of the Prussian State Library is given by R. H. Sitch in *Library Association Record*, vol. xlviii, no. 8, August 1946, p. 202 et seq.

2. An authoritative statement of the policy adopted in the American zone is contained in an article by Roger Adams, 'Present status of German scientific publications', in *Chemistry and Engineering News*, vol. xxiv, no. 6, 25 March 1946, p. 790 et seq.

3. I am indebted to Mr. Reuben Peiss, Chief of the Library of Congress Mission, for this latest information about the activities of the Börsenverein, which he gave to the conference during the discussion following this paper.

4. A detailed and very readable account of the work and achievements of the Library of Congress Mission is given by Reuben Peiss in *Library Journal*, vol. lxxi, no.12, 15 June 1946, p. 863 et seq. A postscript to that article, by Luther H. Evans, Librarian of Congress, appeared in *Library Journal*, vol. lxxi, no. 14, August 1946, p. 1014 et seq.

5. Mr. Peiss told the conference that he had just returned from a visit to Leipzig, in the course of which he had been able to bring back to Frankfurt $100,000 worth of books and periodicals which had been reserved by Leipzig publishers for their American customers. It is to be hoped that this is a precedent which will open up a channel of easy access to Leipzig both for the Americans and for ourselves.

Scientific Publications in the British Zone of Germany

By COLONEL B. K. BLOUNT

Trade and Industry Division, Control Commission for Germany and Austria (British Element)

IN describing the present position of scientific publications in Germany I shall approach the subject from my own point of view—that of the scientist—rather than from that of the librarian or expert in documentation. I shall, moreover, confine my remarks to the position in the British Zone of Germany, though the state of affairs in the other zones of occupation is, broadly speaking, similar.

There are six universities in the British Zone—at Bonn, Cologne, Göttingen, Hamburg, Kiel, and Münster. To these must be added one 'technical university', three technical colleges, and five other colleges of similar status, situated in other important towns like Aachen, Brunswick, and Hanover. All these institutions of higher learning made considerable efforts to safeguard their books during the war, but many acted too late, and by no means all were successful in their efforts. Approximately half the books belonging to the libraries of these institutions were destroyed in the course of hostilities, and of the remaining half a large proportion is not yet generally available owing to the damage suffered by the library buildings.

The University of Göttingen was the most fortunate in the British Zone and its library building remained virtually unscathed. But unfortunately about half its stock of books was evacuated to a slate mine in the Harz mountains which subsequently received a direct hit. This material is still inaccessible and its fate, therefore, remains uncertain, but there is reason to believe that it may have been damaged through flooding of the workings. The University of Münster, on the other hand, was singularly unlucky. During the course of the war the main library was completely gutted by fire, but it was possible to save the books of the seminar libraries, which were placed for safety in cellars in the town and so survived, only to be destroyed by the floods which caused such widespread havoc throughout Germany during the early months of 1946. The libraries of the other universities and colleges all suffered some degree of loss to buildings or to book stocks. In Berlin, too, considerable losses were suffered by the library of the Technische Hochschule.

Before these libraries can take their place again as centres of learning and research a vast programme of replacement of books will have to be undertaken. The chief difficulties, apart from that of finding accommodation in which to house them, are the destruction of publishers' stocks and the present very acute paper shortage. In Berlin and Leipzig most of the stocks in publishers' and wholesalers' warehouses were either destroyed during military or air operations or were widely

appropriated by the Russians. More recently the Americans have made considerable inroads into all the available material, so that little remains for ourselves. The worst obstacle, however, is the lack of paper. Strict priority is being given to books designed for educational purposes, and especially to schoolbooks, but the competition is strong and the supply of paper quite inadequate.

In general, German scientific periodicals continued to appear throughout the war until the end of 1944. Attempts are now being made to revive scientific periodicals, and, indeed, two of the most important, the *Zeitschrift für Naturforschung* and *Die Naturwissenschaften*, have recently reappeared in Wiesbaden.

I do wish to emphasize most strongly the desirability of reviving the old scientific periodicals rather than attempting to institute new ones in their place. This is a point which has been discussed widely in Germany lately. The two periodicals which I have just quoted are, of course, revivals of accepted and old-established ones.

Our chief concern in this country is that German scientific publications since 1939 be procured and made available in our libraries. So far as war-time publications are concerned the greatest difficulty lies in the fact that the stocks in Germany have, for the most part, been destroyed, so that we must face the necessity of resorting to reproduction. At the same time we must, as a matter of the greatest urgency, take steps to ensure that one copy at least of every current German scientific publication comes to this country. Difficulties exist in the physical transfer of the material owing to the lack of postal facilities between Germany and Great Britain, and also in the absence of any satisfactory method of payment.

Whilst we are primarily concerned with the procurement of German publications for our own use, we must not allow ourselves to forget that German scientists are in even greater need of British and other foreign scientific publications of which they have been deprived during the war. The difficulties of providing such material are considerable, but they are chiefly of an administrative nature concerning means of transport and payment, for there exist in this country adequate stocks of the publications required. It is our responsibility to see that the gaps on the shelves of the learned libraries in Germany are filled so far as is humanly possible.

DISCUSSION

The Chair was taken by Mr. A. E. Cummins, Librarian of the Chemical Society. In opening the discussion Mr. Cummins drew attention to a most important article by Reuben Peiss, entitled 'European wartime acquisitions and the Library of Congress Mission' which appeared in the *Library Journal*, 1946, vol. lxxi, pp. 863–76 and 911. Mr. Peiss was the head of this Mission and the Chairman quoted some striking passages from the article: 'I insisted then, and I believe events will justify the insistence, that our function should be to grab what was to be had and to leave the record-keeping to the Library of Congress with its massive bibliographical machinery. We have therefore abjured wants lists or the searching of bibliographies or other techniques which might be used in normal times. We hope to get what is to be got, to distribute this to American libraries, and then to go after gaps which show up in our holdings when the

inventory has been made. As for duplication, we must remember that British, French, and Russian libraries will be wanting books from Germany too, and we shall unquestionably be able to trade duplicates with them.' Later on he wrote: 'There are now ranged on the shelves in the library of Congress Annex about 100,000 volumes ready to be classified and distributed according to the established system of priorities. . . . In addition to these 100,000 volumes, the Library now has on hand 2,500 cases containing all manner of publications, chiefly German. . . . New shipments now arrive weekly.' That was the American system.

In this country, in August 1945 there was set up the Enemy Publications (Requirements) Committee (EPCOM). This body had worked hard, securing lists of requirements from many sources. Purchasing, authority for which had only recently been granted, was vested in His Majesty's Stationery Office. This being the purchasing agency for Government Departments, certain priorities had had to be agreed to. First claim on material brought to England had been granted to the British Museum and other copyright libraries. Then Government Departments might have items they had requested, and additional items which they could show to be obvious omissions, and only after this could such bodies as learned societies and universities be considered. This meant that medical journals might not be accessible in important medical libraries which could best make them available, or chemical journals in a chemical library, because other bodies which had been granted priority had claimed them, or at best the delay would be likely to be considerable.

It seemed clear that satisfactory results could only be obtained if another body were also to be given purchasing power, to work parallel to H.M.S.O. Such a body should have one aim, to grant priority for each item to the library which would be best able to make it available to the greatest number of those able to make the best use of it.

Mr. H. E. L. Freytag asked whether any attempt had been made to obtain copies of Russian publications from Germany. Many of the obscure items of Russian scientific and technical literature published during the earlier part of the war were unobtainable in Britain but seem to have reached Germany—at least they had been freely abstracted in *Chemisches Zentralblatt*—and they might be expected to be represented in German libraries. General experience had shown that this class of literature of that time was now unobtainable in Moscow, being invariably reported 'out of print', while Germany would be a hopeful source.

Mr. Garside replied that, as far as he was aware, nothing was being done to procure Russian war-time publications. The terms of reference of EPCOM confined its activities to enemy countries, and Russia did not come within its category. He knew of no organization which was responsible for the procurement of publications from other countries, which were, in any case, supposed to be obtainable through normal commercial channels. Undoubtedly Russian material published early in the war and which found its way into Germany must still exist in German libraries, unless it had been destroyed there during hostilities. It was interesting to note, in this connexion, that a Russian national bibliography was said to have been compiled and published. He understood, however, that its export from the Soviet Union was expressly forbidden.

Dr. Joseph E. Faraday asked Col. Blount if he could give any information about the Beilstein organization.

Col. Blount replied that it was encouraging to know that the team working on Beilstein's *Handbuch der organischen chemie* had been reassembled, together with its material, at Höchst, near Frankfurt-am-Main, and that work on Gmelin's *Handbuch der anorganischen chemie* had similarly been restarted.

At the invitation of the Chairman, Mr. Reuben Peiss gave some up-to-date information regarding the Library of Congress Mission. In the first place, he stated, the number of publications in Germany was a good deal larger than had been calculated. The Library of Congress Mission had discovered over 500 serial publications. A bibliography of the publications had now been published. Further, very recently a number of important scientific journals had resumed publication (or announcement of such resumption had been made). In the American Zone there were the *Deutsche Zahnaerztliche Wochenschrift, Kunststoffe, Medizinische Klinik, Seifensieder-Zeitung,* and others. A few

days before the Aslib Conference the resumption of the following had been announced in the Russian Zone:

Biologisches Zentralblatt	*Anorganische Chemie*
Zentralblatt für Chirurgie	*Statistische Praxis*
Zentralblatt für Gynäkologie	*Die Versorgung*
Annalen der Physik	*Die Technik.*

Just before coming to England Mr. Peiss had returned from an expedition to Leipzig under the sponsorship of the Soviet Military Administration. He and his colleagues had brought back with them over $100,000 worth of the most important scientific journals published in Germany during the war. These had been stored by Leipzig dealers for American libraries. It was expected that about $150,000 worth of materials of this same kind would be brought out of Leipzig in the next few months.

Mr. Peiss concluded by urging the necessity of rapid action. The Russians had been quite cordial, and there was no real obstacle in the way of making purchases in their zone. The problem was even simpler in the other zones, though all purchases were complicated by the question of the rate of exchange. The members of the Library of Congress Mission would be happy to do everything in their power to aid their British colleagues in Germany.

Professor R. S. Hutton remarked that it was perhaps no good crying over spilt milk, but it was certainly disappointing to find how slow most British librarians were in foreseeing the post-war short supply of publications from enemy and enemy-occupied countries. Aslib itself could hardly be blamed, for it undertook, during the war, the microfilm reproduction of vast amounts of current periodical publications, and specially arranged the receipt and microfilming of the weekly *Deutsche Nationalbibliographie*. Few librarians made use of the opportunity which this latter publication offered, of preparing order-lists for prompt execution the moment the war ended. In the meantime the Americans, with greater imagination and vigour, seemed to have gone in first and had creamed the market.

Mr. F. Hickman pointed out that there seemed to be a well-defined policy governing the present publication of periodicals in the British Zone of Germany, viz. to permit, and even to encourage, the revival of pre-war journals whose value to the advancement of knowledge had long been recognized throughout the world. In the publishing of books, at the present amounting to something like 100 per month, no such policy was discernible, however. He submitted that the control of new book publications in the British Zone might well be operated under a policy which allowed a degree of priority to works embracing recent German scientific research of lasting value. A considerable quantity of this type of material had accumulated in manuscript form during the past three or four years and could not be adequately treated by the German periodicals at present appearing.

Mr. F. Donker Duyvis said that it would be much appreciated if the authorities of the British Mission would help to re-establish the *Deutscher Verband für Dokumentation* which was started by anti-Nazis who later on were expelled by the Nazi party.

Most German periodicals of the war period were present in Dutch, Swedish, and Swiss libraries. The reproduction centre in The Hague (Fédération Internationale de Documentation, Willem Witsenplein 6) was quite willing to help Aslib members with photocopies, and undoubtedly the same would apply to the centres in Stockholm (Tekniska Högskolen) and Zürich (Eidgenössische Technische Hochschule).

Dr. A. Eisner Heublum, when asking for more details regarding the company which was publishing Gmelin, mentioned for historical reasons that in pre-Nazi times the name Gmelin Institute was not used nor had the editor, i.e. the late Professor R. J. Meyer to whom the conception of the eighth edition was due, ever been called Director.

'Celluloid Circus': A Film about a Film Library

By COLIN DEAN

Crown Film Unit

I SHOULD like to make it quite clear that I have no qualifications to speak fully on film library work and that I can only talk about those aspects which we have come across during the making of 'Celluloid Circus'. 'Celluloid Circus' is, by the way, only a working title and will have to be changed. 16-mm. non-inflammable film which is used in the Central Film Library is not made of celluloid, and if the past few weeks have been like a circus we won't admit it.

The film is really an instructional project, made to satisfy requests from overseas for information about the non-theatrical distribution of films in Great Britain. No other country is in a better position to give this information as the whole conception of non-theatrical films for educational and training purposes has reached its greatest fulfilment in Britain. The war-devastated areas of Europe have needed help in their rehabilitation; education in Europe is in need of rapid and modern methods. The possibilities of film in this programme have not perhaps yet been fully developed, but we hope that this film which we are making will be of some assistance to those concerned with rebuilding educational systems.

We are, in a way, an information bureau: that is after all the purpose of documentary film-making. 'Celluloid Circus' is serving the purpose of documentary, it is giving facts and transmitting information. It is as well to know what a documentary film is. Working in large studios as we do it is sometimes difficult to know. The answer may lie in the method of distribution. As a general principle documentary films are not made for box offices. They are usually sponsored by private or public interests for the purpose of giving general information to general audiences or technical information for specialist audiences. 'Celluloid Circus' belongs to the latter category; it is one type of many—there are the campaign films such as 'Road Safety', there are scientific films, films about current events, even story films. They may be distributed in the theatres, but mostly they go through non-theatrical channels such as libraries or mobile film units which give film shows in village halls, factory canteens, and so on.

There is a vast difference between the making and distribution of this kind of film and the production and exhibition of the films you see in the local cinema. Documentary, by which I mean all the instructional, educational, and general-interest films, is, however, film-making. It needs cameras, sound-recording instruments, actors, lights, and technicians just as the commercials do. I think it both gains and suffers by this very close relationship to one of the great luxury industries in the world. It gains because a medium of entertainment

which is so universally popular has obvious advantages as an educational medium. It suffers because commercial film-making can afford to be expensive when there is a box office at the end of the road, and documentary, even at its simplest, must reflect this high cost in its budgets. Further, established cinema distribution is not always available or indeed suitable for documentary films. It has had to develop its own distribution.

Because of the nature of films, distribution is not easy. They are not like other media. They need machines. A film in a can without a projector is so much junk. They are fragile, easy to scratch and tear. Even in the best conditions they are not likely to last for much more than thirty years. They are awkward, heavy things to carry about. You cannot go into a shop and buy a film and then settle down to study it in front of the fire as you would a book. So if documentary is to have its own distribution, it is not only a vital part of its development but one beset with all kinds of problems. As technicians we have found a good deal of interest in making 'Celluloid Circus' because it is so deeply concerned with the future of our films.

The story of non-theatrical distribution of documentary films in Britain started with the war. Training and information films were needed and the people who needed the training were likely to be anywhere between here and Mousehole. Mobile units were used to take films to these new audiences. The scheme has grown, but much more important as the supply of home or community-owned projectors increases is the work of film libraries.

It is the organization of a film library that we are examining in 'Celluloid Circus'. It is, as I say, an instructional film, and we hope that those people in Europe and elsewhere who are interested in establishing film libraries will find it of help.

The methods of handling films shown in the picture are those developed by the Central Film Library at South Kensington. These are temporary premises and rather difficult for filming, so we decided to build sets in the studio and at the same time make improvements in the layout and method which after six years the library staff were able to suggest. We wondered for a while about using artists and decided in the end to use the real people in the library as we hoped, and our hope is already justified, that they would get used to the cameras and lights more quickly than actors would get used to filing systems, fibre boxes, and rewinders.

The film is an experiment in a way. There is a danger that it may contain too much detail and become a study of motion. But one cannot help but be impressed by the number of people in specialist audiences who complain of insufficient detail in their films. We hope they will not be disappointed this time.

Mr. Dean's talk was illustrated by blackboard references to 'Celluloid Circus', the summary and part of the shooting script of which are given below.

'Celluloid Circus': A Film about a Film Library

Two films were also shown by courtesy of the Central Office of Information, 'Library of Congress' and 'Book Bargain', the latter depicting the make-up and printing of the G.P.O. Telephone Directory.

CELLULOID CIRCUS

(Summary and Shooting Script)

The scene opens in the Programme room, with Grierson (or other) at a desk talking to the camera concerning documentary films:

> 'I believe that people need those very things now as much as during any period of the war. The success of non-theatrical shows must depend, in part, on the efficiency of distribution. As the supply of 16-mm. projector increases, this responsibility will fall mainly on film libraries. What follows is therefore an analysis of film library working, based on the experience of the Central film library.'

First the ground plan of the building is shown from above and in front, then the individual rooms are indicated by models placed on the plan; an intake room (intake 'A') for films arriving in the library from the laboratories for the first time, a cinema for previews, a store for prints kept in reserve, space for stacking films which are in circulation, offices, a film dispatch centre, another intake room (intake 'B') for films returned by borrowers, an examination room where films can be cleaned and checked after being used, and, for inflammable film, fire-proof vaults.

The film then traces the progress of a new film. The following is an excerpt from the shooting script: (*Note*: L.S. = long shot; M.S. = medium shot; C.S. = close shot).

Scene No.	*Scene*	*Guide Commentary*
116	STUDIO. DAY. INT. M.C.S. Intake 'A' and labelling room in place on model.	Take the case of a new film. It will arrive from the labs. here.
117	STUDIO. DAY. INT. L.S. Intake 'A' and labelling room. Back and as high as possible to focus on door and delivery table, but also to include labelling tables and trolley. *Carrier Man Enters* to leave twenty 16-mm. cans ('To-day and Tomorrow') on delivery table. He carries receipt with him. Goes L. to foreman for signing on receipt. Trolley half-empty.	And here are twenty prints of a new film arriving.
118	STUDIO. DAY. INT. M.S. Intake 'A' and labelling room. Looking down and across to delivery table (lower than 117). Twenty cans on table and carrier moving L. out of screen.	
119	STUDIO. DAY. INT. M.S. Intake 'A' and labelling room. Twenty cans on delivery table. Woman booker walking into picture towards cans. (Eye level.)	

Scene No.	*Scene*	*Guide Commentary*
120	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room looking down on pile of cans. Hand comes in to take top one away. They are labelled 'Today and Tomorrow'.	
121	STUDIO. DAY. INT. C.S. Cinema unit model in place on ground plan. *Camera dissolve* to ——	The library staff see new films,
122	STUDIO (THEATRE L). DAY. INT. M.S. Looking across on two rows of audience of film-bookers watching screen.	so that they can discuss with borrowers their programme requirements.
123	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room. Unit model in place on ground plan.	Back at intake room.
124	STUDIO. DAY. INT. L.S. Intake 'A' and labelling room. Back and as high as to focus on labelling tables (if this is not possible with same angle as PAN from delivery table to labelling tables). The pile of nineteen cans is now on these tables. The booker comes in with twentieth can. The labelling staff are at work. One girl (facing camera) is sticking new labels on old boxes. Foreman at desk. Trolley all but full.	The prints have come over here to be put in boxes and numbered.
125	STUDIO. DAY. INT. M.S. Intake 'A' and labelling room. Cutting on window (R.) racks (L.). Trolley in foreground. Girl sticking labels on cans is given twentieth can by booker. Foreman comes to side of table with list and boxes which he gathers from racks on the way.	
126	STUDIO. DAY. INT. M.S. Intake 'A' and labelling room. Labelling table. Pile of twenty cans. Girl at end of table. Foreman comes in R. with new boxes and list. Consults list.	
127	STUDIO. DAY. INT. C.S. Intake 'A' labelling room. List with foreman's finger on 'Today and Tomorrow'. (List is daily arrival of new films.) Code number and number of prints given.	Every film in the library has its own code number,
128	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room. Girl at end of table pushing twenty cans along table towards foreman.	every *print* its own box
129	STUDIO. DAY. INT. M.S. Intake 'A' and labelling room. Foreman seeking correct stencil numbers starts to stencil boxes.	and print number.
130	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room. Edge of box. Hands coming in to stencil.	V—code letter for subject 234—'Today and Tomorrow' 's number. sd.—sound. 2—print number.

Scene No.	*Scene*	*Guide Commentary*
131	STUDIO. DAY. INT. M.S.–C.S. Intake 'A' labelling room. Box being opened; can put into box; box closed and taken out screen 'R.'	These boxes will be the permanent home of the prints from now until the day they are junked.
132	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room. Edge of table. Box coming in from L.	
133	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room. Nineteen boxes in print no. order on edge of table. Twentieth box put on top. Foreman's hands come in to take boxes. PAN with him to trolley which he then wheels out of picture.	'Today and Tomorrow' will now be referred to as V234. Secondary numbers 1 to 20 for each print. Numbers 1 to 18 only being available for borrowing,
134	STUDIO. DAY. INT. C.S. Intake 'A' and labelling room model. PAN to circulation stacks room in model.	for of the twenty prints two go to the store as reserve and eighteen to the circulation stacks.
135	STUDIO. DAY. INT. L.S. Circulation stacks. High. Looking down and along row of shelves to door. Door opens, foreman with trolley comes up line of shelves.	
136	STUDIO. DAY. INT. M.S. Circulation stacks. (Eye level.) Foreman comes up line of shelves. PAN with him and trolley to vacant space near end of R.-hand shelf. He takes eighteen boxes of 'Today and Tomorrow' from trolley. Puts them on shelves. (*Track to —?*)	The eighteen prints are put on these shelves to await customers.
137	STUDIO. DAY. INT. C.S. Circulation stacks. (Eye level.) Eighteen boxes going into picture from L. and on to shelves.	

While the above was taking place, V234 has been recorded in the Booking room.

The Programme room is next seen where a record of each print of each film in the library is kept. Here four bookers are shown at work; telephoning, moving about, making entries at booking-stacks. A girl at the bottom right table is putting new cards into stacks. Each print has its own history chart which is shown. The vertical lines being pencilled on two cards are for prints 19 and 20—kept in store as an insurance for the honouring of all bookings.

All that remains is for someone to ask for the film. Let us assume that a letter is received as follows:

'. . . and you will remember we had "World of Plenty" last May, but I am wondering if there are any new films dealing with some aspect of food problems overseas. The date for which the film would be required will be the 28th August. Also would it be possible to have "World of Plenty" again on 28th October? We are having . . . .'

The film goes on to show the action taken as follows:

Scene No.	Scene	Guide Commentary
148	STUDIO. DAY. INT. M.S. Programme room. M.S. Booker at eye level, pondering. The idea comes and the catalogue consulted. A title is pencilled in on the borrower's letter ('Today and Tomorrow').	W.T. WOMEN'S VOICE. Repeat faintly: '. . . some aspect of food problems overseas. . . .'
149	STUDIO. DAY. INT. C.S. Programme room. C.S. Borrower's letter 'Today and Tomorrow' being pencilled in.	
150	STUDIO. DAY. INT. B.C.S. Programme room. B.C.S. lines of letter asking for 'World of Plenty' in October.	
151	STUDIO. DAY. INT. M.S. Programme room. M.S. looking along table towards door (as in 140), booker leans towards stacks and opens at Print 1, 'Today and Tomorrow' (V234).	First see if there's a print of both films free at the times requested.
152	STUDIO. DAY. INT. C.S. Programme room. C.S. Stacks being opened at Print 1, V234, over booker's L. shoulder. The booking is entered by file number. The leaves are shut.	That's all right.
153	STUDIO. DAY. INT. B.C.S. Programme room. Full screen, booking being entered.	Notice the ten-day spread. That is the time allowed each booking.
154	STUDIO. DAY. INT. C.S. Programme room (as in 152); booker moves to R. to next stack, opens 'World of Plenty' cards. Prints 1, 2, 3, 4, 5, cards consulted and turned back. Booking entered on Print 6. Booker returns to normal position and takes pad of yellow forms. (*Track to—?*)	Now 'World of Plenty' wanted for 28th October. Print 6 is free. Next take this pad of yellow forms.
155	STUDIO. DAY. INT. B.C.S. Programme room. Big close-shot filling in yellow form with two copies. Take whole business to read what is written.	Take two copies as well as the original.
156	STUDIO. DAY. INT. C.S. Programme room. Over L. shoulder of booker (as in 152). Tears off three copies. One goes in basket marked 'OUT'. One goes on file. Booker gets up out of chair with third one.	One goes back to the borrower as an acknowledgement. One goes to the file.
157	STUDIO. DAY. INT. M.S. Programme room. *Track* with booker to room next door. Booker goes to filing-cabinet in corner. End track behind typist. Booker opens drawer and extracts file.	The last and most important.
158	STUDIO. DAY. INT. C.S. Typists' room. C.S. booker at filing-cabinet. Booker takes out files labelled plainly with date. Yellow form put in file. File back in drawer. Drawer shut.	These are the yellow forms for all future bookings. But notice that although Mrs. ? wanted V234 for 28th August, it is here tabulated as 23rd August.

Scene No.	*Scene*	*Guide Commentary*
159	STUDIO. DAY. INT. M.S. Typists' room (as at end of *track*). Booker shutting cabinet and walking R. out of picture. Tilt down on to typist's desk—she being busy with labels—to centre on *calendar* in C.S. *Fade.*	It is not until that day that any further action will be taken on behalf of Mrs. ?

Such are the faculties of the film medium that it is the 23rd of August when the typists' room is seen again, as is indicated by the calendar on the typists' table. Five days from now the borrower will be having her show.

An empty dated folder and a pile of yellow forms (see scene 154) will be observed. Franked labels are being typed with one copy. Not only the address, but the file number, code number, and date for showing are put on the label. The typist pins the label to the copy, and places it in the 'OUT' tray. She then takes the yellow form to a cabinet drawer and inserts it in a second dated folder. The borrower wanted 'World of Plenty' for 28 October, so until 23 October, when this process will be repeated, the yellow form has gone back to the cabinet.

The camera moves to the circulation stacks. The copies of the labels are used as dispatch notes. A foreman with a trolley and list appears and goes into the bay containing V234. There is a list of shelves in the background. The foreman takes a print from the bottom shelf, places it on trolley, and goes on his way. The prints are taken in order. Next time it will be Print 2 of V234 which goes out.

What happens on its return is best illustrated by another excerpt from the shooting script as follows:

Scene No.	*Scene*	*Guide Commentary*
179	STUDIO. DAY. INT. C.S. Models on layout. Intake room 'B' in position on layout.	When the show is over
180	STUDIO. DAY. INT. L.S. Intake room 'B' back and high. Mail bags being dropped in. Receiver cutting string on boxes, noting numbers on return sheet, and loading boxes on to trolley.	the print is returned to the library here.
181	STUDIO. DAY. INT. M.S. Intake room 'B'. Action as above. M.S. looking down on to bench.	
182	STUDIO. DAY. INT. C.S. Models on layout. C.S. Examination room. Model in place on layout.	It is then checked here,
183	STUDIO. DAY. INT. L.S. Examination room. Back and high. L.S. to take in all examiners at work. Double doors open, empty trolley going out. Examiners work from their L. to R. with rewinders. *Sunlight* streaming through windows.	examined for scratching, sprocket-hole, or other damage.

Scene No.	Scene	Guide Commentary
184	STUDIO. DAY. INT. M.S. Examination room. Medium height in front of R. bottom table looking towards door. *Tilt* down to focus on second examiner who is running film through fingers.	If extensive, borrowers are asked to explain. Sometimes disciplinary measures are taken.
185	STUDIO. DAY. INT. C.S. Examination room. Second examiner stops film and brings up to face work more closely.	The most common causes of damage are oil and dirt in the projector,
186	STUDIO. DAY. INT. B.C.S. Examination room. Big close shot of strip of film with light panel beneath. The film is scratched. It starts to move again and then is stopped and wound back a few feet. The scratches are still there, but also there is sprocket-hole damage.	or bad threading. And this is the result when seen on the screen.
187	INSERT AND FULL SCREEN. Badly scratched film.	Scratching.
188	INSERT FULL SCREEN. Film that is running with too little loop due to sprocket jumping giving flicker.	Sprocket holes torn.
189	INSERT FULL SCREEN. Film that is scratched with cuts made so that action is constantly interrupted.	Indiscriminate patching.
190	STUDIO. DAY. INT. M.S. Examination room. Examiner finishes rewinding and throws film in bin.	
191	STUDIO. DAY. INT. M.S. Examination room. Last examiner R.-hand side taking reel off rewinder, making note on report sheet, putting reel in box and putting box on edge of table (V234).	With V234 all is well,
192	STUDIO. DAY. INT. C.S. Examination room. C.S. V234 on edge of table. Hands come in and take it out of screen R. Dissolve to	and it goes back
193	STUDIO. DAY. INT. C.S. Circulation stacks. Hands come in with V234 to put it in its place *on top* of pile on shelves and into C.U.	to the circulation stacks—on top.
194	STUDIO. DAY. INT. M.S. Models on layout. Using same method of exposition as in Scene no. 116, point to appropriate sections of model in the following order: Intake 'A' and labelling room; Circulation stacks; Booking room; Dispatch room; Intake 'B'; Examination room; Circulation stacks.	And once again this is the library cycle. Intake, viewing, boxing, and numbering, reserve prints to store, prints for lending to circulation stacks. Registration and dealing with requests. Prints dispatched from here returning to second intake room, examination, and back to stacks.
	Fade to End Title	

DISCUSSION

The Chair was taken by Mr. E. H. LINDGREN, who expressed his pleasure at being invited to take the Chair for Mr. Colin Dean. He was very glad that Aslib had seen fit to include in the conference a session devoted to the film, because it was one more

portent amongst many that the potentialities of the film in the spreading of knowledge were achieving more and more their proper measure of recognition. If the films were to be used effectively in this way, however, it was essential not only that the right films should be produced but that they should be stored in a proper collection, catalogued, and effectively distributed. He imagined that he had been asked to take the Chair because as Curator of the National Film Library he was concerned with the development of one aspect of this work, namely, the permanent preservation of films and film records, the cataloguing of films, and the effective use of those films, in particular, which illustrate the development of the film as an art form. Mr. Colin Dean was to talk that afternoon about an aspect of the work which was no less important, namely, the distribution of informational films in general.

Mr. Colin Dean had come to us from Australia, he had worked for eighteen months with the Crown Film Unit, and had been engaged in the making of films of UNO and the Paris Peace Conference. He was now working on a film called 'Celluloid Circus' designed to demonstrate the activities of the Central Film Library, and the paper he was now to read was the result of the research work which he had undertaken in order to produce that film.

Mr. Agard Evans said he was somewhat perturbed at the suggestion made that the life of film was only about thirty years. He would like to ask whether in fact this was so, since he had understood that the life of cellulose acetate film was probably as good as paper. It was an important point, since the Master of the Rolls had in January last declared that films and photographs were official records and in consequence part of Mr. Evans's job was to establish and maintain libraries of films and photographs of buildings and events of historic significance. This work would be meaningless if the life of the material were as short as thirty years.

Mr. A. E. Dillon, Reference Librarian, Manchester, asked whether each film was examined on its return to headquarters, and was informed that this was the case.

Mr. E. N. Simons joined with other speakers in complimenting Mr. Dean, and referred to the necessity of keeping a permanent record of industrial films. He mentioned that the Iron & Steel Institute were endeavouring to do something of this kind for the steel industry, but was of the opinion that it should be a National, if not an Empire, matter.

Mr. A. Williams asked why good documentary films were spoiled by the introduction of background music. The majority of people find it distracting and even annoying. (Mr. Dean replied that the Crown Film Unit did not use background music.) It was unfortunate that both the films shown on this occasion were marred by this defect.

Mr. F. Hickman remarked that the film 'Library of Congress' could be regarded as a satisfactory piece of library propaganda designed for the consumption of the general public. It was, however, somewhat disappointing to an audience of special librarians, inasmuch as it did not reveal sufficient of the technical aspects of a great library organization.

In the process of making the film it was probable that many more 'shots' of technical details had been taken than were actually used in the film for public exhibition. The editing of the film had led to 'cutting', no doubt, which had involved the rejection of whole sequences depicting the Printed Card Service, for example. Mr. Hickman asked whether the Central Film Library took any steps to acquire, record, and distribute sequences complete in themselves which had been photographed but not finally incorporated in the films for which they were prepared. If this were not being done, it was recommended that the possibilities of acquiring such sequences be explored, with a view to the Central Film Library building up a stock of material useful to lecturers, who would in future be making far greater use of film strips and film strip projectors than of magic lanterns and slides.

Technical Dictionaries and Glossaries

By MISS M. GOSSET, A.R.C.S., B.Sc.

IT is not as an authority on technical dictionaries that I was asked to open this discussion. Far from it. The Conference Committee was anxious to have a session devoted to the subject, as we have been several times asked to have one, but we could not get anyone to give a paper—so I volunteered to stand up and be shot at in the hope that during the shooting we should get together a useful list of dictionaries and produce some suggestions for bettering the present very dire state in which librarians find themselves for want of good technical dictionaries. My chairman ought to be doing this job, for, as you all know, he *is* an authority, and you will all know the useful list of dictionaries contained in his book *Records and research in engineering and industrial science*, a second edition of which, I believe, is now in the press. I am very glad to know that he is here beside me, and I warn you and him that if the shooting gets too fierce I shall take cover behind him.

Mr. Pledge, the Keeper of the Science library, kindly allowed me to have Science library bibliographical series no. 619 circulated to form a basis for discussion. We know that there are many faults to be found with it and that it is very incomplete. It was compiled at a time of acute staff shortage simply because Mr. Pledge felt the need of such a list was so pressing that anything was better than nothing. As he says in the preface, it was produced mainly from references found in our daily search through the literature and includes, besides complete works, articles in periodicals and lists in books. In fact, I think its main usefulness lies in those references to periodical literature, for many useful glossaries have appeared in this way. The works cited have not necessarily been seen by the Science library staff but may only have been gleaned from reference to them in the literature. For this reason entries are often incomplete. The list forms part of a much larger bibliography now in course of revision and we are anxious to include any additions or improvements suggested at this meeting.

I have been fortunate enough to secure for this meeting a copy of another bibliography of technical dictionaries compiled by Mr. Singer of New York. I very much hope he is here to-day, but I have failed to get in touch with him. His list has a number of items—especially of German origin—that we have missed and I shall be glad to show it to anyone interested, but I would stress that the copy has only been lent to me. The trouble so often with dictionaries produced abroad, from the English-speaking point of view, is that so often the, let us say, English into German part is large while the German into English is relatively small. It is therefore unfortunate for us that the greater activity in the compilation of dictionaries comes from abroad.

The question of dictionaries resolves itself into two parts: (1) what has been published; (2) what is available; and as a subsection to (2), what can be done to make more available.

As regards (1) you all, I hope, have additions to make to this list. As regards (2) we know the position is deplorable. Works which have gone out of print have not been reprinted and new works have not been published due to causes over which we have had very little control. I contacted quite a number of publishers to find out what they have available at the moment and I must say the answers I got were very depressing by and large. Now here I am placed in rather a difficulty. As you know, Aslib may not be used as a platform to advertise individual publishers, yet I feel that the most useful thing I can do is to tell you what dictionaries I have discovered are available. (List given at end.)

That is all I can do in the way of telling you what is available, so let us come to the question: How can we make more available? As you know, dictionaries are costly things to produce and their sale is, by the very nature of them, limited; therefore in these days publishers are not going to use their limited stocks of paper in reprinting them or even in publishing new ones except in special cases. It has been suggested to me by one publisher that success can only be achieved when there is close co-operation between a specialist organization and a publisher. In other words, the organization shall guarantee a sale amongst its members—I should like to hear what you think of that suggestion.

The new photographic methods of reproduction—for example those used by Edwards Brothers so successfully in reproducing at a very low cost very massive enemy publications during the war—might well be used for reprinting dictionaries; microfilm will not, I think, be suitable, for, as Dr. Holmstrom pointed out to me, one must be able to open a dictionary at any point.

Then I wonder would it be possible to gather together various glossaries on the same subject and reproduce them as one. The British Council had a scheme for centralizing Russian glossaries in the Science library with a view, I believe, to compiling a dictionary some day. From the complete lack of interest shown in these I can only imagine that either the only people who want Russian glossaries are the people who sent them in and therefore have copies, or that there is so little Russian literature being received that the question does not arise.

Well, we have very little time at our disposal and we are most anxious to get the views of the meeting on these points, and so I will take up no more of your time.

Additions to list.

HANSEN, *Danish-English Technical dictionary.* Bailey Bros. & Swinfen. 30*s.*
WELD, LE R. D., *Glossary of physics.* 1937. McGraw-Hill. 15*s.*
NEREN, *Swedish Motorlexikon* (in 4 languages). Bailey Bros. & Swinfen. 7*s.* 6*d.*
SUNDSTROM, *Flyglexikon. Swedish-English. English-Swedish.* Bailey Bros. & Swinfen. 17*s.*

Now available again in Bibliography No. 619

p. 1. col. 1. 2nd item	Newmark. 30*s.*
„ „ 1. 3rd „	Sell. Distributed by McGraw-Hill.
„ „ 2. 3rd „	DeVries. 24*s.* 6*d.*

p. 1. col. 2. 5th item	Guinle. Routledge. 18*s*.
p. 2. ,, 1. 2nd ,,	Hoyer Kreuter. £5 per vol. Vol. 1 G. E. F., vol. 2 E. G. F., vol. 3 F. G. E.
,, ,, 1. 3rd ,,	Webel. Routledge. £2.
,, ,, 2. 8th ,,	Patterson. C. & H. distributing.
p. 3. ,, 1. 1st ,,	Patterson. C. & H. distributing.
p. 4. ,, 2. last ,,	Kettridge. 2-vol. French-English and English-French. £1. 8*s*. per vol.

TEXTILE GLOSSARIES

Additions to Science Library Bibliographical Series No. 619

Arends, P. C. R., 1938. *A.B.C. der Kunstseiden und Zellwolle.* (German.) Berlin. 104 pp.

Unger, H., 1938. *Dictionnaire du fil et de la schappe de rayon.* (French.) Antwerp. 344 pp.

Marter, M., 1931. *Dictionnaire anglais-français et français-anglais à l'usage des industries textiles et du vêtement.* (French, English.) Paris and Liége. 219 pp.

Gilonne, G., and others. 1930. *Dictionnaire pratique des tissus.* (French.) Lyons. 550 pp.

Heiden, M., 1904. *Handwörterbuch der Textilkunde.* (German.) Stuttgart. 664 pp.

Renouard, A., 1922. *Industries textiles: Le Lin* (vol. 15, tome 1, of 'Guides techniques', Plumon). (French-English-German-Italian.) Paris. 565 pp.

Mossner, J., 1935. *Kunstseide-Lexikon.* (German.) 213 pp.

Rickenbach, W., 1941. *Technical and Commercial Dictionary on Raw Silk.* (3rd edition; typed foolscap, bound.) (English-German-French-Italian.) Zürich. Four sections: English first, 79 pp.; Italian first, 65 pp.; French first, 70 pp.; German first, 70 pp.

Harras, H., 1905. *Technologisches Wörterbuch der Textilindustrie.* (Deutsch-Englisch.) Elberfeld. 407 pp.

Glafey, H., 1937. *Textil Lexikon: Handwörterbuch der gesamten Textilkunde.* (German.) Stuttgart and Berlin. 942 pp.

Schams, (Dr.), 1927. *Textil-Wörterschatz.* (German.) Altenburg. 182 pp.

DISCUSSION

The Chair was taken by Dr. J. E. Holmstrom, who said that it was his privilege not to introduce Miss Gosset, for she had been prominent in Aslib for many years past, but to be in the Chair on an occasion which marked her passage from the Science Museum Library—that keystone of scientific bibliography in this country, the scope and value of whose methods was well illustrated by the bibliographical list on which Miss Gosset was about to comment—to a sphere of work in which she would be responsible for feeding information to a field of research which was of crucial importance to the future of all of us—that of atomic energy in the new research station at Harwell. In that work all would wish her success.

The discussion following the paper was opened by Mr. A. E. Dillon, who expressed his appreciation of the Science Library Bibliography No. 619, circulated to delegates, and stated that, to a librarian of a large public library, dictionaries and their half-sisters, encyclopaedias, were very important reference books. He made a plea for the publication of foreign encyclopaedias in parallel translation form as the great majority of the British public, a section of which he represented, regarded English as the most important language. He personally subscribed to that view, which was perhaps a rather daring statement to make to an audience largely composed of expert linguists. He maintained a further plea for the introduction of the loose-leaf principle for encyclopaedias, and recalled the President's observations of the previous day regarding the

need for being up to date. He mentioned the comparative out-of-dateness of the *Encyclopaedia Britannica* (14th edition), the Annual Supplements to which were not used to any appreciable extent because of their separateness from the main work. A further instance was the forthcoming *Schweizer Lexikon* in German (7 vols.) which was to be published in Switzerland and would be out of date in some respects even when it first appeared. The remedy lay in the combination of the loose-leaf principle and constant revision.

Dr. J. C. Withers called attention to the small number of entries in the Science Library 'Bibliography' under the heading of 'Textiles'. Compared with the magnitude of the textile industries, the glossaries were indeed extremely meagre, and several titles might be added to the list. He promised to supply particulars.

Dr. Withers said that the most important polyglot dictionary for textiles was in the *Schlomann Oldenbourg* series; vol. xiv covered *Fibres*, vol. xv *Spinning*, and vol. xvi *Weaving*. Textile technologists had waited for years for further volumes to cover Knitting, Lace, and Embroidery, and all the processes concerned with the conversion of fabrics in the raw state into useful and beautiful materials. Unfortunately this hope had not been fulfilled. The only subsequent volume in this series dealt with Aeronautics. It might be an indication of a common defect of bibliographers, namely, to divorce bleaching, dyeing, printing, finishing, and proofing from textile technology and to treat these processes as sections of applied chemistry.

One serious difficulty in compiling textile dictionaries was that in our own language the same word might bear different interpretations in different localities and, alternatively, the same basic conception might be expressed in many ways. The word 'pick', for example, had its obvious meaning in the cotton field. In the early stages of cleaning cotton in American mills it was used in the familiar sense of 'picking oakum'. In weaving it was both a noun and a verb, connected with the insertion of the weft in a fabric. In knitting it related to the widening and narrowing of the leg of a stocking. A few years ago the Textile Institute encountered confusion of this kind in the conduct of its examinations, questions being quite misunderstood by some candidates because of their interpretation of the terms employed. The Institute now had at work a committee to straighten out the confusion and to try to secure that, at least in the Institute's publications and examinations, there should be some general agreement on the meaning of words.

Mrs. Lancaster-Jones said that the British Council's Book Review Scheme operated in both directions. Attempts were made to place books received from foreign countries for review with suitable periodicals here. Thus, if any association represented at the Conference could undertake to review a technical dictionary in its appropriate organ, it might be possible to ask the Council's overseas staff to endeavour to obtain, by presentation, single copies of technical dictionaries for introduction to Great Britain. Once, of course, any review appeared it would be the business of anyone interested to obtain further copies of such a dictionary through normal trade channels.

Miss B. Schafer remarked that in a developing industry it was extraordinarily difficult to get precise technical equivalents. This was due partly to one word having a variety of meanings, as Dr. Withers had said, and partly to a variety of words having the same meaning. She had recently had to translate a German paper on screw extrusion in which the author used the word *überrennen*. She felt sure that a literal translation would not do, so she had gone to the engineer who had asked for the translation, saying, 'Look at this diagram. Material is being squeezed out of a slit *here*. How would you describe the situation?' 'Well,' said the engineer, 'we usually call it "bleeding-off" but, of course, if you like you can call it "spewing".' Most people would agree, she thought, that neither of these elegant expressions could be readily deduced from *überrennen*. There was no doubt that people in industry and commerce could be very helpful in establishing technical equivalents. Miss Schafer recalled a book by Carl Crow, *Four Hundred Million Customers*. The author, who was an advertising agent in China, described how, when acting for a pioneer exporter of cars and accessories, he was forced to send out a questionnaire, collate the replies, and compile and publish a glossary, to enable customers to order spares in intelligible terms. Similarly the Spanish dictionary by Guinle to which Miss Gosset had referred—an excellent short work—was

stated in the preface to be based substantially on words met with in tenders, catalogues, and other trade documents.

Miss Schafer suggested that practical men in the newer industries should take the opportunity, when visiting or being visited by their foreign opposite numbers, of finding out just what terms were in use for novel processes, materials, and machine parts, and should put their lists—however short—into the hands of a librarian or of some organization which could record and later make use of this first-hand authenticated information in any dictionaries or glossaries which might appear.

Dr. L. E. C. Hughes said that the compiler of a technical dictionary was faced with a large number of odd glossaries and text-books, from which, through his specialist contributors, he had to make clear the meaning of words used by experts to a wider public. Unless such glossaries were published by some authority, particularly the British Standards Institution, such an editor was perforce required to maintain the usage of technical terms, which might be, especially in mining, extremely localized; multiple meanings presented no difficulty, it was the multiplicity of words having the same meaning which degraded the language. The B.S.I. had done excellent work, in electrical and allied subjects, aeronautics and highways, and His Majesty's Stationery Office had published an excellent meteorological glossary, all of which could be taken as authoritative; but apart from the specialized medical and botanical dictionaries, the tidying up of the technical terms now in use had scarcely started. It would be competent to research associations to collect and tabulate the meanings of the words commonly used in their respective industries and present them to the B.S.I. for official approval and publication along existing lines. It would then be possible to bring pressure on the editors of journals and the authors of books to restrict the publication and teaching to such technical terms as have been officially accepted. Language, however, was a live subject, always growing and frequently changing its meanings; it was, therefore, incumbent on persons describing new scientific discoveries, or technical improvements in industry, not only to use existing language as far as possible but, when new words were necessary to describe new effects or materials, then those words should be clearly defined, so that a meaning might be established which had not been defined before. It should then be an obligation to communicate such new meanings to official bodies for subsequent inclusion in official glossaries, and hence in technical dictionaries which depended upon them. Dr. Hughes deprecated the haphazard production of odd glossaries, which misled students and often caused considerable difficulty in obtaining information required in industry. He pointed out that the usage of terms clearly also affected international dictionaries and quoted the particularly sad case which arose through the mistranslation of the German specification of the location of the sound-track on 16-mm. film. It was some years before it was discovered that the Americans put the sound-track on one side of the picture, whereas the Germans and English put it on the other side, an accident which cost the industry dearly and was not rectified for many years.

Mr. E. Simons commented that quite apart from the question of technical dictionaries in foreign languages, there was room for very great improvement in technical dictionaries for the English reader. Recently he had endeavoured to find a dictionary containing a definition of the term 'linishing machine' and had consulted every technical dictionary to be found in the Sheffield Library, admittedly one of the best in the country for metallurgical reference, but had been unable to do so. This was not, however, an isolated instance. More than once he had had that most exasperating of all experiences, the drawing blank in a work of reference when in search of some technical term. Not only this, but many of the descriptions given in technical dictionaries were either incomplete or inaccurate, and he was of the opinion that the compilation of these invaluable works was too often left in the hands of purely academic scientific workers, who were familiar enough with the theory, but had no experience of the terms used in the workshops. Mr. Simons referred, incidentally, to the difficulties with which the Chinese were struggling in their attempt to translate Western technical terms into their curiously complex language, which he himself had once endeavoured to learn. As an example of the clever way in which they adapted their language to technology, he mentioned their translation of 'bombs' into 'fly-fly-eggs'. Mr. Simons

congratulated Miss Gosset on a valuable and informative paper and stressed the necessity that foreign language technical dictionaries should be kept up to date.

Mrs. A. J. Burt said that she was at first perturbed to think that the B.S.I. might be considered one of those 'odd spots' issuing glossaries to which Miss Gosset had referred, but she was relieved to find that Dr. Hughes regarded it as a responsible authority! She wished also to mention that there were several British Standards glossaries on technical subjects which might assist some of the members, although no doubt some were already well known to particular specialists. There were already in existence B.S. glossaries of acoustical, aeronautical, highway engineering, gas engineering, welding, and telecommunication terms, amongst others; the telecommunications glossary was a separate publication from B.S. 205, *Electrical Engineering*. With regard to Dr. Hughes's suggested preparation of standard interpretations of new technical terms, the B.S.I. was always willing, on request, to undertake work for which there was a generally recognized need, provided that the request was sponsored by a responsible and authoritative body of opinion. She suggested that Aslib was in fact such a body.

Mr. J. F. Stanley stated that many British Standards specifications contained a glossary of terms and some of these specifications had been translated into foreign languages. If it were considered that these translations were of any value as glossaries, he would be glad to let the Science Library have particulars of the specifications concerned. With regard to the suggestion that the B.S.I. should prepare further technical glossaries and that glossaries in languages other than English should also be prepared, it might be of interest to the meeting to be reminded that the B.S.I. was a member of the International Standards Association, which was beginning to resume its activities, and that the question of nomenclature was on the forefront of its programme.

In reply to Mr. Stanley, Miss Gosset said that she thought his suggestion would be most helpful and she hoped that he would get into touch with Mr. H. T. Pledge, Keeper of the Science Museum Library.

REPORT OF THE TWENTY-FIRST ANNUAL GENERAL MEETING

THE twenty-first Annual General Meeting of the Association was held at the Fyvie Hall, The Polytechnic, Regent Street, London, W. 1, at 6 p.m. on Friday, 13 September 1946.

One hundred and thirty members were present.

Chairman: Mr. C. Le Maistre, C.B.E. (Chairman of Council), acted as Chairman of the meeting in the absence of Sir Frederic Kenyon, K.C.B., G.B.E. (President of the Association), who was unable to be present.

Before opening the proceedings the Chairman invited Mr. Donker Duyvis, of the Fédération Internationale de Documentation (The Hague), one of the distinguished foreign guests, to take a place on the platform.

Item I. **Minutes of the Last General Meeting**

The minutes of the Twentieth Annual General Meeting, having been printed and circulated in the *Report of the Proceedings of the Twentieth Conference*, 1945, were taken as read. They were accepted unanimously and signed as correct by the Chairman.

Item II. **Audited Statement of Accounts, 1945–6**

The audited statement of accounts, which had already been circulated, was presented by the Hon. Treasurer, Miss I. M. Shrigley, supplemented by Mrs. L. Moholy, former Director of the Aslib Microfilm Service, for the Microfilm Service accounts, and by Mr. R. H. Hill for the British Union Catalogue of Periodicals accounts.

Miss Shrigley pointed out that for the first time there was a balance in hand of £600 and paid tribute to the splendid co-operation of the membership and the untiring work of the Director and her staff.

Mrs. Moholy drew attention to one or two points on the circulated sheet, particularly to the fact that the Royal Society 'loan' of £200 was not repayable and should strictly have been described as a grant.

Mr. Hill paid warm tribute to the work done by Mr. Besterman. His trip to the U.S.A. had resulted in the collection of much experience which would be invaluable in the later stages of BUCOP, which was progressing satisfactorily.

Miss Shrigley then proposed that the motion for the adoption of the accounts be put to the meeting: this was seconded by Mr. Fullman and was carried unanimously.

Item III. **Election of Auditors**

Mr. G. A. Shires, of Dunlop Rubber Co., Ltd., proposed the re-election of the Auditors of the Association, Messrs. West and Drake, until the next Annual General Meeting, at a fee to be agreed by the Council. This was seconded by Mrs. Yates, of the Society for Cultural Relations with the U.S.S.R., and was carried unanimously.

Item IV. **Aslib and the British Society for International Bibliography**

The Chairman reported that the Aslib Council had for some considerable time been hoping that some co-operation, or even coalescence, might be effected between Aslib and the B.S.I.B. He had himself been in close contact with the President of the B.S.I.B., Dr. S. C. Bradford, and he had found cordial goodwill on both sides. Mr. Agard Evans proposed that this Annual General Meeting should agree in principle to closer co-operation between Aslib and the B.S.I.B. and should recommend the setting up of a special joint committee to work out the method in which these two bodies could be brought together and report back to the General Meeting. This was seconded by Mr. Stanley, Vice-President of the B.S.I.B., and after further discussion the motion was carried unanimously.

Item V. **Memorandum and Articles of Association. Suggested Alterations**

Mr. Herbert read, and amplified, a memorandum on the proposed alterations to the Memorandum and Articles of Association. He then proposed that the members of the Association assembled in General Meeting, 1946, should agree in principle to these recommendations of the Council of Aslib and that Council should be authorized to take the necessary steps to prepare, with legal aid, a draft of the amended Articles for submission to the membership. This was seconded by Mr. Woledge, and after certain explanations had been given was carried *nem. con.*

Taking into consideration the proposed co-operation with the B.S.I.B., it was generally felt that no final changes in the Articles should be made until it was seen in what way this development might require amendments to existing Articles.

Any further comments or suggestions were requested in writing, and the Chairman then put the motion, which was carried with one dissentient.

Item VI. **The Year's Work of Aslib**

The Director made her report of the year's work. Mr. Brightman proposed that the report be accepted; Mr. Francis Hughes seconded and it was carried unanimously and with acclamation.

Item VII. **Election of President and Honorary Officers**

The Chairman reported that Sir Reginald E. Stradling, C.B., M.C., D.Sc., F.R.S., M.I.C.E., had consented to be nominated as President, and he had very great pleasure in proposing this appointment; Miss Gosset seconded the proposal, and the motion was carried unanimously. It was proposed by Mr. A. E. Cummins, and seconded by Dr. W. E. Batten, that Mr. Herbert be re-elected Hon. Secretary of the Association. Dr. J. C. Withers proposed, and Mr. J. W. Merrick seconded, that Miss I. M. Shrigley be re-elected Hon. Treasurer. Both appointments were approved by the meeting with acclamation.

Item VIII. **Election of Council for the Ensuing Year**

The Chairman explained that, as the number of nominations for election to Council exceeded the vacancies, there would this year be a contested election and it was necessary to select five scrutineers—three being a quorum. It was suggested that Miss M. Couldrey, Mr. L. M. Harrod, Miss A. E. Walker, Miss A. M. Goodwin, and Mr. H. W. Robinson be asked if they would consent to undertake this task.

Item IX. **Vote of Thanks to Aslib Staff**

Mr. B. Fullman proposed, and Dr. R. S. Schultze seconded, a vote of appreciation and thanks to Aslib staff for their loyal co-operation during the past year. This was carried unanimously.

The Proceedings were then closed.

THE ARTICLES OF ASSOCIATION

Item V of the Minutes of the 1946 Annual General Meeting refers to the proposed alterations to the Memorandum and Articles of Association of Aslib, which will be drafted by the Council for consideration by Aslib members. For the information of those members who were not able to be present at the meeting, the following are some of the main points to which the Council will direct particular attention with a view to possible revision.

Memorandum of Association Clause 4

The Council recommends that it should be made possible for a member of Council to receive a fee for a service actually rendered to Aslib, e.g. delivering a course of lectures or preparing a manuscript. A member of Council should not, however, be eligible for full- or part-time salaried employment by Aslib.

Articles of Association 5–15

These articles cover the qualifications, duties, and privileges of membership, and need revision and simplification to conform with the present functions of Aslib.

Articles 26 *and* 28

The Council recommends that these should be revised to allow retiring members of the Council to be eligible for re-election on an equality with newly nominated candidates up to a maximum of three consecutive terms of office.

Article 31

The regulations governing a postal ballot for the election of Council members are at present most unnecessarily complicated, and need revision.

Article 38

The Council recommends that this should be revised to allow ordinary members of the Association, as well as members of Council, to serve on Committees.

Article 45

The Council recommends that the duties of the Honorary Officers, as set out in this Article, should be reviewed and re-defined.

The Policy Committee of Aslib has been asked by the Council to examine the above points in detail, taking into account any recommendations that may be made by the joint Committee with the B.S.I.B. with regard to the possible amalgamation of the two bodies (see Item IV of the Minutes of the Annual General Meeting above).

Although certain clauses have been singled out as being in special need of revision it is obvious that a closer scrutiny may show that the Articles as a whole are so inter-dependent that a completely new draft will be necessary. In any event, they will be submitted to the membership in draft form.

ASSOCIATION OF SPECIAL LIBRARIES AND INFORMATION BUREAUX

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30 JUNE 1946

Dr. 1944/5 £	EXPENDITURE	£ s. d.	1946 £ s. d.
	To General Expenditure:		
1,820	Salaries	2,624 14 0	
270	Rent, Water Rate, and Hire of Rooms	353 3 6	
64	Light and Heat	63 8 5	
151	Printing and Stationery	353 5 3	
232	Postages and Telephone	515 7 2	
123	Office Expenses	137 2 9	
3	Insurance	6 9 0	
10	Reference Books	5 5 7	
3	Fire Watching	— — —	
8	Audit Fee	21 0 0	
13	Depreciation of Furniture and Fittings	13 6 9	
			4,093 2 5
	Printing of Publications:		
120	Book List	139 3 0	
20	Bulletin	32 16 0	
162	Wright's Manual of Special Library Technique (Royalties)	35 0 9	
	Journal of Documentation	315 17 7	
	Select List	113 2 0	
	Bibliography on Italy	109 8 3	
	Collective Author and Subject Index	165 7 6	
			910 15 1
	,, Work carried out on behalf of the British Council		
300			300 0 0
	,, Conferences and Meetings:		
159	General Expenses	295 2 5	
100	Printing of Reports	241 5 3	
			536 7 8
	,, Library Training Course:		
119	Lecturers' Fees and Accommodation		72 16 0
3,777			5,913 1 2
242	,, Balance, being Excess of Income over Expenditure, carried to Balance Sheet		671 1 7
£4,019			£6,584 2 9

Cr. 1944/5	INCOME	£ s. d.	1946 £ s. d.
	By General Income:		
1,628	Members' Subscriptions and Donations		2,215 12 10
	,, Sales of Publications:		
142	Book List	348 7 0	
13	War-time Guides	9 8 8	
75	Wright's Manual of Special Library Technique	152 17 2	
11	Journal of Documentation	820 9 0	
	Select List	101 19 4	
	Bibliography on Italy	7 2 0	
	Collective Author and Subject Index	273 18 0	
26	Other Publications	16 11 0	
			1,730 12 2
	,, Conferences and Meetings:		
210	Fees	624 11 0	
144	Report Sales	83 19 0	
			708 10 0
310	,, Library Training Course Fees		351 0 10
	,, Grants:		
300	British Council	300 0 0	
1,000	Department of Scientific Industrial Research	1,000 0 0	
			1,300 0 0
140	,, Documentary Reproduction Service		253 5 11
7	,, Net Income from Translators' Panel		10 19 5
13	,, Sundry Receipts		14 1 7
4,019			6,584 2 9
£4,019			£6,584 2 9

BALANCE SHEET, 30 JUNE 1946

Dr.

LIABILITIES	£ s. d.	1946 £ s. d.
SUNDRY CREDITORS:		
Current Expenses	229 12 8	
Printing and Publications	388 4 0	
Subscriptions received in advance	5 5 0	
		623 1 8
INCOME AND EXPENDITURE ACCOUNT:		
Balance as at 30 June 1945	88 1 9	
Add: Surplus for year to date	671 1 7	
		759 3 4
		£1,382 5 0

ASSETS	£ s. d.	Cr. 1946 £ s. d.
CASH AT BANK	51 17 7	
,, IN HAND	41 8 1	
		93 5 8
SUNDRY DEBTORS:		
General	996 19 4	
Deposit	7 0 0	
		1,003 19 4
FURNITURE AND FITTINGS:		
As at 30 June 1945	215 0 0	
Additions	83 6 9	
	298 6 9	
Less: Depreciation	13 6 9	
		285 0 0
		£1,382 5 0

REPORT TO THE MEMBERS OF THE ASSOCIATION OF SPECIAL LIBRARIES AND INFORMATION BUREAUX

We have audited the above Balance Sheet and have obtained all the information and explanations we have required. In our opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the Association's affairs, according to the information given to us and as shown by the books of the Association.

(Signed) WEST & DRAKE,
Chartered Accountants.

Sardinia House, 52 Lincoln's Inn Fields, London, W.C. 2.
25 July 1946.

ASLIB MICROFILM SERVICE

INCOME AND EXPENDITURE ACCOUNTS, FROM 10 APRIL 1942 TO 31 DECEMBER 1945

EXPENDITURE

	10/4/42–30/6/42	1942/3	1943/4	1944/5	1/7/45–31/12/45	Total.
	£	£	£	£	£	£
To Production Expenses						
Films and Processing	217	1,818	1,841	1,321	149	5,346
Copying and Enlargements	..	558	1,316	644	454	2,972
Repairs, Spare Parts, and Dark Room Expenses	6	66	230	167	78	547
Wages and Salaries	60	756	1,667	2,324	1,002	5,809
	283	3,198	5,054	4,456	1,683	14,674
„ Office Expenses						
Printing, Postage, Stationery, and Sundries	44	298	321	372	138	1,173
Lighting and Heating	..	48	174	180	108	510
Insurance	..	34	33	18	14	99
Audit and Accountancy	..	10	32	53	37	132
Salaries	41	865	1,160	1,729	718	4,513
„ Directors' Remuneration	100	520	620	620	310	2,170
„ Expenditure on Premises	..	263	..	77	200	540
„ Depreciation of Equipment	5	26	15	35	6	87
Bad Debts and Allowances written off	..	..	..	..	65	65
Grants to cover Removal Expenses of Staff	39	..	..	..	..	39
Income Tax	..	..	..	8	5	13
ASLIB Advisory Fees	38	330	253	144	..	765
	£550	£5,592	£7,662	£7,692	£3,284	£24,780

INCOME

	10/4/42–30/6/42	1942/3	1943/4	1944/5	1/7/45–31/12/45	Total
	£	£	£	£	£	£
By Sales						
to U.S.A.	384	3,339	3,123	3,008	934	10,788
M.O.I.	..	1,460	1,953	..	..	3,413
British Council	..	..	554	1,813	813	3,180
General	3	546	1,589	1,578	420	4,136
Contents Lists	..	60	145	443	109	539
	387	5,405	7,364	6,842	2,058	22,056
„ Conference Receipts less Expenditure	..	..	..	41	1	40
„ ASLIB Advisory Fees Collected from University Microfilm	38	330	253	144	..	765
„ Excess of Expenditure over Income	125	143	45	665	1,227	1,919
	£550	£5,592	£7,662	£7,692	£3,284	£24,780

ASLIB MICROFILM SERVICE

BALANCE SHEET, 31 DECEMBER 1945

LIABILITIES

	£	s.	d.	£	s.	d.
DONATIONS RECEIVED						
1942	1,501	5	0			
1943	250	0	0			
1944	200	0	0			
1945	200	0	0			
				2,151	5	0
GRANT (THE ROYAL SOCIETY)				200	0	0
				2,351	5	0
Less: EXCESS OF EXPENDITURE OVER INCOME for the 3¾ years to date per annexed Account				1,919	6	10
				£431	18	2

ASSETS

	£	s.	d.	£	s.	d.
FURNITURE AND OFFICE EQUIPMENT AT COST	286	7	3			
Less: Amounts written off	86	7	3			
				200	0	0
STOCK OF UNEXPOSED FILMS AND PAPER				245	0	0
				445	0	0
Deduct:						
CURRENT LIABILITIES						
For Purchases	259	18	11			
ASLIB for Advisory Fees	23	14	4			
Expenses accrued (estimated)	360	5	8			
The Royal Society of Medicine for Advances	348	13	11			
	992	12	10			
Less: CURRENT ASSETS	£	s.	d.			
Sundry Debtors	810	15	6			
Cash at Bank	151	15	0			
Cash in Hand	17	0	6			
	979	11	0			
				13	1	10
				£431	18	2

REPORT TO THE SUBSCRIBERS OF THE ASLIB MICROFILM SERVICE

We have audited the above Balance Sheet and have obtained all the information and explanations we have required. In our opinion such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the Association's affairs according to the information given to us and as shown by the books of the Association.

Sardinia House, 52 Lincoln's Inn Fields, London, W.C. 2.

13 August 1946.

(Signed) WEST & DRAKE,
Chartered Accountants.

REPORTS

BRITISH UNION CATALOGUE OF PERIODICALS

Second Annual Report of the Council for the year 1 April 1945—31 March 1946

THE number of slips written and locations recorded during the year, and the total up to the end of the current year, are as follows:

	1945–6	*Total*
Main entries . .	26,088	70,600
Cross-references . .	28,827	52,129
Total slips . . .	54,915	122,729
Locations	52,989	127,649

These figures are most satisfactory, taking into account the far greater difficulty and complexity of the material (society and government publications) dealt with during the year, and the fact that the Editor was abroad for two months. The results achieved continue to be appreciably in advance of the anticipated time-table.

In fact, progress has been at a rate which has made it necessary to proceed to the next stages, the setting up of the preliminary check-list, and the compilation of a list of libraries whose co-operation is desired. Three preliminary lists (A–C) were circulated by the Editor with his fifth quarterly report, and since then a very comprehensive list has been prepared. On the basis of these lists the Technical Consultative Committee were able to establish general principles of selection in accordance with Minute 17 of the Council. On this basis a list (list D) of 559 libraries has been compiled. The dispatch of a letter to these libraries was begun during the last week of the year. General principles governing the addition of further libraries to this list have also been agreed.

In the present extremely difficult conditions prevailing in the printing trade there may be difficulty in arranging for the setting up of the preliminary check-list. Preliminary inquiries have been made, and it is hoped to present estimates and specimens to the Council at its Annual Meeting.

During the year the 'transcription' of the *Union Catalogue of the University Libraries* was completed, and considerable inroads were made into the miscellaneous sources. A large proportion of the society (Ac. and R.Ac.) pressmarks in the British Museum has been dealt with, and substantial progress has been made with government serials, nearly all the governments most prolific in publications having been dealt with. The extent of this last type of entry may be judged from the fact that the heading *Great Britain*, with its related entries and cross-references, involved the writing of about 3500 slips. Owing to the complexity and general difficulty of government serials they have been carefully checked so far as possible with a number of bibliographies and catalogues, and it is hoped that a high standard of bibliographical accuracy will be reached.

In accordance with the decision of the Council at its second meeting, on 2 May 1945, Mr. Besterman visited the United States during the year. His report on this visit was circulated to the Council with his 6th/7th quarterly report, from which the following extracts are taken:

'My inquiries and conversations in the United States were directed to the following chief points:

'1. The methods by which the *Union List of Serials* had been compiled, edited, circulated to the co-operating libraries, prepared for the printers, set, and also, and perhaps most important, the manner in which the returns of the libraries were incorporated into the master copy. Under these heads, I had very full discussions with Mr. Wilson, Mr. Shaw, and many other members of the H. W. Wilson Company Staff, and in particular with Mrs. Malikoff, the editor of the supplement to the

Union List. The Wilson Company generously presented BUCOP with a set of proofs of this still unpublished supplement and supplied copies of the Union catalogue at nominal prices. A series of mishaps unfortunately prevented a meeting with Dr. and Mrs. Gerould (Miss Gregory), although I was actually in Williamsburg where Dr. and Mrs. Gerould live.

'2. The results of practical experience in the day-to-day use of the *Union List*, with a view to discovering any defects of planning or execution which might be remedied in BUCOP. I was able to have conversations in this connexion with the appropriate officials of the national, Philadelphia, and Denver bibliographical centres and union catalogues, and of the libraries of Chicago, Columbia, Harvard, Michigan, Pennsylvania, Princeton, and Yale universities, the Library of Congress, the New York public library, the John Crerar library, the Newberry library, and several special libraries, of which the New York Academy of Medicine is the chief. In several of these places the librarians were good enough to arrange special staff conferences to enable a full discussion to take place.

'3. The BUCOP rules, which I discussed with those who had been chiefly responsible for planning and conducting the *Union List of Serials*. I was able to do this in varying detail, with Mr. Lydenberg, Mr. Metcalf, Mr. Willis Wright, and those set out in the previous paragraphs. I am glad to be able to report under this head that the BUCOP rules, though in many respects different from the American ones, met with very general approval.

'4. The type and number of libraries whose holdings can most advantageously be set out in a published union catalogue. This was discussed with most of those already named.

'5. The method of publishing and keeping up to date a union catalogue of the dimensions of the *Union List* and BUCOP. This was fully discussed with the Wilson Company and others.

'I should like to acknowledge the unvarying help and kindness met at every hand: from Dr. Stevens and Mr. Marshall of the Rockefeller Foundation, from all those already named (especially from Dr. Luther Evans and the staff of the Library of Congress), and from many others, far too numerous to mention.'

The Council wish to express their cordial thanks to the many librarians and others who gave Mr. Besterman the benefit of their experience and to whom more detailed acknowledgements are made in his report.

One meeting of the Technical Consultative Committee was held during the year to discuss the library lists, as noted in paragraph 2 on p. 125. Minor adjustments of the rules have also been agreed.

The audited statement of income and expenditure for the year ended 31 March 1946 is printed on p. 128.

BRITISH UNION CATALOGUE OF PERIODICALS

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31 MARCH 1945

	£ s. d.	£ s. d.
INCOME:		
Grant from Rockefeller Foundation—28/4/44	500 0 0	
" " " " 3/10/44	1,000 0 0	
		1,500 0 0
EXPENDITURE:		
Salaries	1,151 2 10	
Slips	103 10 0	
Duplicating and Stationery	25 16 5	
Books	26 3 4	
Postage	2 14 6	
Miscellaneous	2 15 7	
		1,312 2 8
BALANCE being Excess of Income over Expenditure for the year		£187 17 4

We have examined the above Statement with the books and records of the Association of Special Libraries and Information Bureaux and certify that it is correct and in accordance therewith.

(Signed) WEST & DRAKE,
Chartered Accountants.

Sardinia House,
52 Lincoln's Inn Fields,
London, W.C. 2.

31 July 1946.

BRITISH UNION CATALOGUE OF PERIODICALS

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31 MARCH 1946

	£	s.	d.	£	s.	d.
INCOME:						
Grants from Rockefeller Foundation	1,750	0	0			
" " " " (Paid direct to Mr. T. Besterman in U.S.A.)	198	4	1			
				1,948	4	1
EXPENDITURE:						
Salaries	1,159	4	4			
Printing and Stationery	24	6	6			
Books	3	0	0			
Postage	1	2	0			
Miscellaneous Expenditure		10	0			
	1,188	2	10			
SPECIAL GRANT towards Mr. T. Besterman's expenses in U.S.A.	298	4	1			
				1,486	6	11
BALANCE being Excess of Income over Expenditure for the year				461	17	2
Add: Excess of Income over Expenditure for the period to 31 March 1945, brought forward				187	17	4
TOTAL SURPLUS carried forward				£649	14	6

We have examined the above Statement with the books and records of the Association of Special Libraries and Information Bureaux and certify that it is correct and in accordance therewith.

(Signed) WEST & DRAKE,
Chartered Accountants.

Sardinia House,
52 Lincoln's Inn Fields,
London, W.C. 2.

31 July 1946.

THE NATIONAL CENTRAL LIBRARY

THE National Central Library has continued its services to libraries of all types throughout the country by loans from its own stock, through the inter-library lending system, from university libraries, and from an increasing number of its 'outliers'. After an inevitable decline in the earlier war years, issues of books began steadily to increase and they have now reached a total exceeding that of the last pre-war year. This is due to a very considerable increase in loans to university libraries and to a very steep rise in the number of books lent to government departments, research institutions, and commercial and industrial organizations. The issues numbered nearly 60,000 and included 10,701 books for the work of adult education classes, an object for which the Central Library for Students was primarily founded thirty years ago. In addition the Scottish and Irish Central Libraries issued 12,412 and 13,651 books respectively to all types of libraries.

The stock of the library, reduced by enemy action in 1941 from 176,961 to 72,612, had increased to 92,190 by the end of February 1946.

The number of books lent by libraries co-operating in the regional library systems to other libraries in their own system was 88,728, as against 50,031 in the last pre-war year and 77,549 in the year 1944–5. In addition 11,813 books were lent to libraries in other regional systems through the agency of the National Central Library.

The number of books issued by the library or through its agency to university libraries (excluding those issued to adult class departments) was 5369, an increase of 51·75 per cent. over the last pre-war year. The university libraries also take their share in lending books to other libraries, lending 6505 in 1945–6.

One of the main sources on which the National Central Library is able to rely for the borrowing of specialized literature is the group of 'outlier libraries', comprising the leading libraries devoted to books on special subjects and a number of research institutions. These libraries, which do not in general participate in the regional library systems, lend such books as are available and for which specific requests are made, through the agency of the National Central Library. The group now numbers 166, comprising 139 special libraries, 2 urban libraries which are not yet co-operating in their regional system, and 25 London Borough libraries which have undertaken to lend books to libraries outside London. The total number of volumes available from these libraries was calculated in 1939 (when the libraries numbered 135) at well over 4 million, including 35,000 sets of periodicals. The number of books lent by these libraries during the year was 8512.

Arrangements are in progress for the gradual resumption of the international lending service which had been developed between 1932 and 1939.

The number of entries in the union catalogues at the end of February 1946 was 1,673,546, irrespective of 1,544,000 entries in the London Public Libraries Union Catalogue and those in the Welsh Bureaux (815,117) and in Scotland (104,874), a grand total for England, Wales, and Scotland of 4,444,537.

Approval was given during the year, subject to the provision of funds, to a request made by the Executive Sub-Committee of the Foreign Office Committee on Russian Studies that the library should undertake the compilation of a union catalogue of books in the Russian language in libraries in the United Kingdom.

The bibliographical material in the Bureau of American Bibliography has continued to be of increasing value.

The library has been happily associated with Aslib in an effort to record gaps in series of American periodicals in British libraries, in the preparation of a statement on Scientific Information Services for the Empire Scientific Conference in 1946, and in several other ways.

INTER-ALLIED BOOK CENTRE

Report 1945–6

Up to the end of September 614,919 volumes had been received, of which 537,634 were the result of the various books-drives, and 154,594 were from private donors. Of these, approximately 8,000 had been sent to the Forces and about 12,000 had been selected by the British Museum.

The work of allocation to British libraries was begun on 29 July, and so far 77,911 volumes have already been dispatched to 30 war-damaged libraries in this country including 16 municipal libraries and 14 non-municipal, and approximately 400,000 have been allocated between France, Belgium, China, U.S.S.R., Czechoslovakia, Poland, Holland, Greece, Yugoslavia, Luxembourg, Norway, and Denmark. UNRRA has been good enough to undertake the transport of the books to countries included in their programme.

Books are still being received in large numbers. About 30,000 have already come in since the end of September.

None of the above figures include the many thousands of periodicals and a very large number of pamphlets. Distribution of these is a matter for future decision.

The Centre is due to close down at the end of this year, and it is hoped that the machinery of the Centre and the large redundant stock will be taken over by UNESCO. Proposals to that effect only await the final approval of the plenary session of UNESCO.

Works of the very greatest importance, quite 50 per cent. of which are out of print, including many rare books, and others of considerable intrinsic value have been received. It is felt that the generous response of English people to the request for books is definite evidence that a permanent institution for the collection and exchange of books and periodicals is long overdue, and it is quite obvious from the large number of donations still being received, despite the closing date for reception being fixed for 30 June, that people are only too willing to hand over duplicates or portions of their libraries provided they can be certain that the material so sent will really be of value on the shelves of other libraries and institutions at home and abroad.

Very large collections of periodicals received from industrial firms have been most welcome, and it is clear that the transfer of this material has been a mutual advantage. In the first place, important journals can be sent to libraries and institutions not able to procure them out of ordinary funds, and secondly congestion on the shelves of the industrial firms can be avoided. Also the widespread distribution of the results of scientific and technical research, usually to be found in these journals, obviously is going to react to the benefit of the world at large. International co-operation in the world of literature, which is one of the chief aims of UNESCO, will be helped immeasurably by the continuation of the work carried out by the Inter-Allied Book Centre: a work which is probably unique of its kind on such a huge scale.

An exhibition of sample collections as supplied to the various countries, and some hundreds of volumes of important and rare books and antiquaria, will be arranged at Chaucer House for 6 December, at which the Prime Minister, the Rt. Hon. C. R. Attlee, M.P., will present a token gift to representatives of the countries benefiting from the scheme.

B. M. Headicar

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